

ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1936

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY



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1937.

TO HIS HONOUR,

P. C. H. PRIMROSE,

Lieutenant Governor of the Province of Alberta.

SIR,—

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1936.

I have the honour to be, Sir,

Your obedient servant,

W. N. CHANT,

Minister of Agriculture.

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DEPARTMENT OF AGRICULTURE

1936.

HON. W. N. CHANT, Minister of Agriculture.

Heads of Branches

H. A. Craig, Deputy Minister and Superintendent of Schools of Agriculture.

S. H. Gandier, Assistant Deputy Minister and Director of Junior Work.

P. W. Johnson, Secretary to the Department.

S. G. Carlyle, Live Stock Commissioner, Brand Recorder, and Superintendent of Fairs.

P. R. Talbot, V.S., Provincial Veterinarian.

J. R. Sweeney, Dairy Commissioner.

O. S. Longman, Field Crops Commissioner.

G. M. Cormie, Poultry Commissioner.

S. O. Hillerud, Provincial Apiarist.

REPORT OF THE DEPUTY MINISTER

THE HON. W. N. CHANT,
Minister of Agriculture.

SIR,—

I have the honour to submit herewith the Report of the Department for the year 1936.

The crop season in Alberta was extraordinarily dry in the south and east central Districts, where the total yield was exceptionally light. In the mid-central areas and north to Athabasca, sufficient precipitation occurred to produce a fair crop. Excellent conditions prevailed in the Peace River and Grande Prairie Districts, where a splendid crop was harvested. Rather heavy damage was sustained in restricted areas throughout the Province, but in contrast to 1935 there was very little frost to injure the maturing grain. Grasshoppers did some damage in southern Districts. The net result was a considerable reduction in the total crop production. The estimated wheat yield is placed at approximately 70,000,000 bushels, as compared with 102,000,000 bushels for the previous year. Grains, however, are grading well, and grain prices have strengthened to the point where the farmer may make a reasonable profit.

Conditions with respect to the live stock industry have improved to some extent during the year. A strong demand continues for Alberta horses in eastern Canada, and more horses were shipped out of the Province in 1936 than in any previous season. The sheep business is in a very satisfactory position. Finishing of lambs has proved profitable, and wool prices are higher. Hog raising continues as a major interest in mixed farming, although prices declined somewhat during the fall months. A discouraging feature is the continued depressed condition of the beef raising industry, farmers and ranchers finding it difficult to market even the best grades to advantage. In northern and central sections dairying is making decided progress, and, though there has been a serious shortage of pasture and fodder in the south, production of cheese and creamery butter in the Province for the year has appreciably increased. High prices of feed have had a depressing effect upon the poultry industry, and, though the egg market has held reasonably well, the poultry meat market has not been so satisfactory.

As previously mentioned, drought conditions were unusually severe in the south, resulting in a serious shortage of feed for stock over a wide area. Through special policies for the relief of these Districts in which the Provincial and the Federal Governments have co-operated, surplus stock has been moved out to the packing plants and for winter feeding. Feed for the maintenance of foundation stock has been shipped into Districts where it is required.

The usual Extension Services of the Department were maintained throughout the season. These include the work of the District Agriculturists, Agricultural Short Courses and Field Days, School Fairs, Junior Stock and Grain Clubs, and Lecture-demonstrations with farmers and with groups of rural women.

The Schools of Agriculture at Olds and Vermilion closed a successful term early in April, and re-opened on October 21st with a good registration, the total enrolment being 329 students, of which 201 were boys and 128 girls. This is a slight reduction from the attendance of the previous term, and may be attributed to the drought conditions in the southern and eastern Districts. The courses at these Schools continue to attract our young people, and, with the advent of more prosperous times, it is expected that present accommodation will not be sufficient for those wishing to attend.

Several changes have occurred during the past year in the staff of the Department. Mr. S. H. Clark, Game Commissioner, left the service early in the year, and in July the entire work of the Game Branch was transferred to the Department of Lands and Mines. In October, Mr. S. H. Gandier was appointed Assistant Deputy Minister and Director of Junior Activities, to succeed Mr. J. F. Andrew, whose withdrawal from this position became necessary on account of illness. Mr. J. Ficht, Director of Relief Settlement, has been placed in charge of all agricultural relief. In November, Mr. J. H. Tremblay, District Agriculturist stationed at Edmonton, resigned, and on December 1st Mr. Peter Wyllie was appointed as District Agriculturist, with headquarters at Leduc. The following changes have taken place in the staffs of the Schools of Agriculture:—the resignation of Miss Lillian Rogers from her position as Matron at Olds, the vacancy being filled by the appointment of Miss Jean Gordon; appointment of Mr. Newcombe Bentley to the position of Science Instructor at Vermilion, replacing Mr. F. B. Dixon now on sick leave; the appointment of Miss Helen McCaig as Instructor of Home Economics, to fill a vacancy on the Olds staff.

I am pleased to report that the staff of the Department has rendered efficient service during the year, and that the work has been assisted in no small measure by the very fine spirit of co-operation which exists between our Department and other agricultural agencies within the Province, such as, the Federal Department of Agriculture, and the Faculty of Agriculture of the University.

Reports of the various Branches of the Department are herewith appended.

Respectfully submitted,

H. A. CRAIG,

Deputy Minister of Agriculture.

REPORT OF THE LIVE STOCK COMMISSIONER.

(S. G. CARLYLE.)

The live stock industry of Alberta is one of the most important in the Province. More people are engaged in it than in any other business, and the net returns are second only to those of field crops. It is becoming of greater importance each year, owing to the cheapness with which coarse grains and fodder crops can be grown over large areas of the Province. Notwithstanding the abundance and cheapness of feed, live stock raising has not always proved profitable, and, to make it so, improvement in marketing conditions is needed, and, if possible, new markets found. This is especially true of cattle raising.

Horses.—Alberta has always produced horses of exceptional quality, and usually a ready market has been found in the other provinces of Canada. Large numbers are shipped each year to the eastern provinces, and this year several shipments were made to the United States. A shipment of Clydesdale geldings to the Old Country was made during the past summer, which brought high prices, and was favourably commented on by the dealers there. Of late years, a market for a large number of heavy draft geldings at profitable prices has not been easy to find in this country, and the opening of this British market is welcomed by the breeders.

As in past years, the bulk of our horses have gone to eastern Canada, where there is still a strong demand. The total number of horses shipped out of the Province of Alberta during 1936 was 33,624 head, which is a larger number than in any year since records have been kept. Quebec continues to take the largest number.

This year, 17,037 were shipped to Quebec; 1,102 to New Brunswick; 1,064 to Nova Scotia; 3,710 to Ontario; 904 to Manitoba; 3,995 to Saskatchewan; 1,389 to British Columbia; 4,423 to the United States.

The demand for breeding stock is still keen, and some good stallions have been brought into the Province, chiefly from the United States. Very few are coming from the Old Land, but some new blood from this source would prove a benefit to some of the breeds. There is a good demand for the cheaper type of stallion of the draft breeds in the outlying Districts of the Province. Farmers there are not in a financial position to pay a high price for breeding stock, but they need a good type of horse that will give them good, serviceable work horses.

Light horse breeding is receiving a good deal of attention, and keen interest is taken where Thoroughbred Associations have been formed. Calgary and Edmonton are still the chief centres, but Red Deer, Sedgewick, Vermilion, and Lloydminster districts are raising good thoroughbred and hunter horses.

Beef Cattle.—The cattle men have not been enjoying as good prices for their stock as have the breeders of other classes of animals. There are still large numbers of undesirable types coming to market from some of the farming Districts of the Province. On the other hand, some of the finest beef cattle in the world are raised on our Alberta ranges, and it is deplorable that a profitable market can not be found for them. It was thought

a year ago that the reduction in tariff by the United States by 1 cent a pound would influence the marketing of Canadian grain-fed cattle, so that a profit could be made. Farmers sharing in this belief put a larger number of cattle in feed lots than for some years. As there was a very heavy crop in the western States, the American farmer did the same thing, with the result that in the spring of the year, when these cattle were finished, there was practically no market, and all these good cattle were sold at low and unprofitable prices.

If there is any industry in Canada that needs assistance in marketing its products, it is the beef cattle industry. It is true that conditions have changed somewhat this winter. The American farmer had a much lighter corn crop than in 1935, and the drought area extended over a larger portion of western Canada than ever before, affecting the grain crop materially. Farmers who have the feed, and who put in cattle this last fall, will, perhaps, receive remunerative prices, but it seems that the only time the Canadian feeder can get any advantage is when his American brother has been unfortunate enough to get a short crop. Something must be done to put this business on a sounder footing, or ranching in western Canada will be a thing of the past.

The pure-bred breeder has also felt the effects of the commercial market, and for the past five or six years has had a struggle to stay in business. Prices seem to be on the up-grade at present, but, until commercial cattle are put on a paying basis, the pure-bred breeder cannot hope to realize higher prices. The following is a list of the pure-bred Bull Sales held in the Province during 1936:—

EDMONTON BULL SALE.

Breed.	Number Sold.	Average Price.
Shorthorns	70	\$ 80.61
Aberdeen-Angus	15	63.33
Herefords	16	96.56
	<u>101</u>	<u>\$ 84.41</u>

CALGARY BULL SALE.

Breed.	Number Sold.	Average Price.
Aberdeen-Angus	82	\$ 79.39
Herefords	285	156.19
Shorthorns	187	99.92
	<u>554</u>	<u>\$125.83</u>

LACOMBE BULL SALE.

Breed.	Number Sold.	Average Price.
Shorthorns	43	\$ 79.77
Herefords	26	88.27
Aberdeen-Angus	11	101.37
	<u>80</u>	<u>\$ 85.50</u>

Dairy Cattle.—In the fluid milk Districts of the Province we have some splendid herds of dairy cattle, both pure-bred and grade. Good sires have been brought into the Province from time to time, and the herds have been kept up, both as to type and production.

Dairying is on the increase in Alberta, and more farmers are becoming interested each year in building up their herds, but, unfortunately, there are large numbers of farmers, especially in the Districts outside the fluid

milk areas, who have paid little attention to the breeding of their cattle, with the result that there are many nondescript cattle of mixed breeding on Alberta farms. Encouragement is being given to the building up of herds of one breed, better stabling, and improved feeding methods.

In the latter part of 1936, the drought was so severe, and extended over such a large part of the Province that the Dominion Government came to the assistance of the Provincial Government, and, under a united policy with the packing plants, decided to take the lower grades of cattle off the market and sell the processed meat outside the Province. Under this policy, 15,300 head were shipped from Alberta farms to the various packing plants, and 1 cent per pound was paid off car weights. This proved of assistance to a great many farmers who would have had to take a much lower price for this class of cattle, if sold through dealers. The Dominion Government also paid the freight on cattle shipped out of the drought area to any other point in this Province, or to any of the other provinces in Canada. This resulted in approximately 35,000 head being shipped, principally to the eastern provinces.

The Dominion and Provincial Governments and the railways have contributed equally in a policy of giving free freight on cattle which have been shipped out from the dry areas of the Province to other parts where feed is plentiful, this stock to be returned in the spring. Under this policy, 581 car-loads of cattle and 11 car-loads of sheep were shipped to winter feeding quarters.

Alberta has a larger surplus of cattle than any of the other provinces, so low markets affect her more seriously. The surplus of Alberta cattle practically equals the surplus for the rest of the Dominion. Last year, the number of live cattle shipped out of the Province was 316,863, the destination by Provinces being as follows:—British Columbia, 84,831; Saskatchewan, 6,151; Manitoba, 53,184; Ontario, 44,162; Prince Edward Island, 108; Quebec, 45,000; Nova Scotia, 690; New Brunswick, 952; United States, 81,785. The returns are not complete, but the number exported to Great Britain is not large.

In addition to this, dressed meat is shipped out by the various packing plants, and is equal to a large number of live cattle.

Sheep.—Alberta sheep producers are in a fortunate position as far as markets are concerned. The domestic trade in Canada absorbs the Canadian production, leaving no surplus to depress prices. With this in mind, it is questionable if increased sheep production should be encouraged. Production at present is centred in the natural grass country, or on the ranges, and the raising of sheep fits in best with cheap or waste land. This is true not only in Canada but in other countries as well; sheep production being higher in the dry areas of the United States, in Australia, Spain, and other countries where cheap, rough land exists. On the smaller Alberta farms, where there is no waste land, it is doubtful if sheep would fit in the farm economy as well as do hogs and cattle. Encouragement, however, can be given in the finishing of range lambs on farms where there is a surplus of feed. This is a legitimate expansion and one that is meeting with favour by an increasing number of farmers each year.

The price of pure-bred rams was an improvement over a year ago, but, as few of the ranchers buy pure-bred rams of the breeds that are raised

in Alberta, and as the market for pure-bred rams is confined chiefly to farmers, it is doubtful if any encouragement is needed to increase these pure-bred flocks. In some cases it would be better if these pure-bred flocks were replaced with good commercial ones.

The price of wool has been a little better than last year, and the prices as now received are somewhere in line with the cost of production. On the whole, the sheep business is in a very satisfactory position.

Below is a summary of the 1936 Sheep Sales held in the Province:—

CALGARY SHEEP SALE.

Breed.	Number Sold.	Average Price.
Suffolk Ewes	43	\$ 9.81
Hampshire Ewes	30	13.42
Shropshire Ewes	9	8.44
Cheviot Ewes	1	6.00
Southdown Ewes	10	12.60
	93	\$ 11.10
Grade Ewes	165	\$ 3.37
Suffolk Rams	101	18.60
Hampshire Rams	114	31.28
Oxford Rams	1	30.00
Shropshire Rams	18	19.78
Cheviot Rams	5	14.00
Southdown Rams	15	15.60
	254	\$ 24.15

EDMONTON SHEEP SALE.

Breed.	Number Sold.	Average Price.
Suffolk Ewes	12	\$ 5.58
Oxford Ewes	2	6.00
	14	\$ 5.64
Southdown Rams	8	\$ 20.38
Suffolk Rams	37	23.25
Cheviot Rams	9	14.11
Hampshire Rams	17	17.88
Oxford Rams	21	15.29
Shropshire Rams	9	15.78
	101	\$ 18.98

LACOMBE SHEEP SALE.

Breed.	Number Sold.	Average Price.
Grade Ewes	176	\$ 3.25
Pure-bred Ewes	66	8.05
Pure-bred Rams	62	18.80

Hogs.—The hog industry still continues to be the most profitable on the mixed farms of Alberta. This is due to the satisfactory prices that have been paid. Prices continued good for the first eight months of the year, and the general average was over that of 1935. In the month of September, prices started to decline, and continued to do so throughout the remaining part of the year. Whether these lower prices were justified is a question for argument. There is no doubt, however, that there was a heavier run of hogs than usual during these months, and more hogs were marketed than the export trade would take, and necessitated a hold-over, and whenever this is done the packers naturally make sure that they will be bought at a price which will cover any chance of future loss. On the other hand, there are those who contend that undue advantage has been taken of these heavy marketings, and that the price has been kept lower for a longer

period than was justified by the price of bacon in Great Britain. Unfortunately, these low prices occurred during the breeding season, and this, in conjunction with the high price of barley, has had the effect of large numbers of brood sows being placed on the market, which will, no doubt, affect marketings in 1937.

If farmers were not attracted by high grain prices in some years, it would lead to steadier production, and this would help to level prices throughout the year, and would create a better impression on the British market. During the winter and spring months of 1936, cold weather was experienced, which caused a heavier mortality in young pigs than usual. Farmers would be well advised to pay more attention in the future to the care and feeding of brood sows by having warm, well fitted quarters for farrowing, and supply the proper minerals to keep these young pigs strong and healthy. Experiments have been carried on at the University of Alberta and at the Lacombe Experimental Farm for a great many years, and expert advice can be obtained from these institutions.

The quality of our hogs has continued to improve, and over 62 per cent. graded in the first two grades last year. Swine improvement work is carried on by the Provincial and Dominion Governments, through Boys' and Girls' Swine Clubs, the Brood Sow Distributing Policy, and the Boar Bonusing Policy.

Breeding Stock.—The price of breeding stock hardly kept pace with the price of commercial pigs. The prices at the Edmonton Fall Sale were disappointingly low, though at Calgary considerably higher prices were paid.

While there is still room for improvement, there is reason to feel proud of what has been accomplished in quality and in increased numbers of hogs in Alberta.

Below is a summary of the 1936 Calgary and Edmonton Swine Sales:—

EDMONTON SWINE SALE.

Breed.	Number Sold.	Average Price.
Yorkshire Sows	37	\$ 23.12
Tamworth Sows	8	25.78
Yorkshire Boars	34	20.94
	79	\$ 22.65

CALGARY SWINE SALE.

Breed.	Number Sold.	Average Price.
Tamworth Sows	7	\$ 11.43
Yorkshire Sows	33	25.48
Tamworth Boars	9	18.00
Berkshire Boars	1	10.00
Yorkshire Boars	53	23.94
	103	\$ 22.93

FAIRS AND EXHIBITIONS.

During the year 1936, in addition to the Calgary and Edmonton Fall and Spring Shows and Sales, 20 Fairs were held:—2 Class "A" Fairs, 6 Class "B" Fairs, and 12 Class "C" Fairs.

The Fairs were fairly successful, but the small prize amounts paid, due

to the low Government grant, had its effect by smaller numbers of stock being brought out at a number of these Fairs.

Most of the Fairs are carrying on with the expectation that a larger grant will be received in the near future. Some headway has been made in cancelling the charters of a large number of the Fairs that were recommended to be cancelled by the Fairs Association. It is hoped that this matter will be settled early during this coming year, and that we can get down to the basis of one Fair that will serve a fairly large community. When this is done, it is the hope of the Fairs Association that larger grants will be provided and that these Fairs can be put on a sound financial basis.

If we are to improve the live stock in this Province, the holding of Fairs, so that these animals can be brought into competition, forms a very useful part. This has been demonstrated over and over again in Great Britain and the older parts of this country. The best stock is usually found in Districts where there is a strong Agricultural Society.

BRAND RECORDS.

During the year, 448 new horse brands, 597 new cattle brands, 1 sheep brand, 8 fox brands, and 2 poultry brands were recorded to their respective owners, while 96 transfers were registered. Certified extracts, searches and strays numbered 2,123, and renewals 2,899 (cattle, 1,749, and horses, 1,150), making a total of 6,164 transactions.

Compared with 1935, these figures show an increase of 98 horse brands, 2 poultry brands, and 14 transfers, and a decrease of 86 cattle brands, 7 fox brands, 76 strays, and 69 renewals.

The approximate number of brands now in good standing in our registers are as follows:—

Horse brands, 7,060; cattle brands, 12,178; poultry, 11; sheep, 6; and fox, 23;—making a total of 19,278.

REPORT OF THE PROVINCIAL VETERINARIAN.

(DR. P. R. TALBOT.)

As in previous years, the duties of the Provincial Veterinarian are varied, and can be summarized as follows:—

1. The prevention and control of diseases of animals that do not come under The Animal Contagious Diseases Act of the Dominion Government.
2. Giving assistance to those living in outlying Districts, where the services of veterinary surgeons are not available.
3. The supervision of the health of the live stock at all the Provincial Government Institutions.
4. Giving Lectures at the University of Alberta on Veterinary Science, as well as at the various Short Courses held during the year.
5. Supervision and conducting of experimental work, in relation to diseases found peculiar to animals in this Province.
6. The conducting of Meetings in relation to diseases of live stock in various parts of the Province.
7. Carrying out the provisions of The Stallion Enrolment Act.
8. Promotion of the Provincial Co-operative Purchasing Plan for Pure-bred Stallions.

EQUINE ANAEMIA, OR TYPHOID INFLUENZA.

This disease, which has been mentioned in previous Reports, has been particularly prevalent during the last year, and losses have been considerable, especially in the northern part of the Province, where horses have access to sloughs or marshy ground, or have been fed slough hay.

Some authorities declare that parasites play a most important part in producing the symptoms of this disease, and it is also believed that feed deficient in proteins, or in iron, may be a contributing factor. Owing to the horses in the northern part of the Province having to be fed, over such a long period of time, with dry feed, much of which has been grown on marshy ground, which apparently lacks in nutritive material, there is a probability that it lowers the vitality of the animal to such an extent that it makes it susceptible to various micro-organisms.

It can be seen that a particular problem is created for the farmer in northern Alberta, many of whom are homesteaders, and depend entirely upon the horse for their farming operations. As yet, the country is not sufficiently developed for them to obtain an adequate supply of wholesome drinking water for their stock, and a satisfactory supply of feed from well drained land.

We have had so many inquiries concerning this disease that, in order to give the desired information, we think it advisable that a brief summary of the symptoms should be given in this Report. There is a rapid rise of temperature in the early stages, extreme weakness and wobbly gait, especially in the hind quarters. Conjunctiva is congested, and shows bright red petechial haemorrhages, varying in size from a pin point to several millimetres in diameter. Jugular pulsation is a common symptom, and

can be easily detected. Edematous swellings occur along the abdomen. Stocking of the lower extremities occurs in some instances. Sometimes there is enlargement of the head, if the animal is grazing or fed from the ground or a low manger. The pulse is quick and hard. The appetite remains good, excepting at the height of the fever, when it becomes ravenous until death.

It is our impression that much can be done to prevent this disease by taking the necessary precautions. In Districts where anaemia exists, allowing access to slough water and the feeding of slough hay should be avoided. Suspected horses should be observed and their temperatures taken daily for a period of several weeks. If stables have contained horses suffering from anaemia, they should be carefully disinfected, special attention being given to the floors. Healthy horses should be kept away from the excretions of sick animals. Everything possible should be done to eliminate flies.

For horses suffering from this disease, we have been recommending the giving of a parasiticide, as well as the giving of an internal antiseptic and antipyretic. A good tonic should also be given, as it aids greatly in recovery.

Owing to the fact that there are very few veterinarians in outlying Districts, many Meetings were held throughout the country. The people who were interested organized themselves, and met at some central point. A brief outline of the course of the disease was given, with special emphasis laid on the means of prevention. For those having sick horses, a certain line of treatment was recommended. It is our opinion that these Meetings assisted materially in reducing losses from this disease.

WEED POISONING.

Owing to the unusual weather conditions which existed in northern Alberta during the past spring and summer, we have had more cases of weed poisoning reported to us than ever before. On account of the variations in the symptoms, which depend on the weed eaten, many of the owners of the animals were unable to ascertain the cause of death, and this Branch had to give assistance in the way of identifying the plant, and advise as to the best methods of preventing further losses. It is not necessary for us to discuss the various poisonous plants in this Report, as we have an excellent Bulletin "Plants Poisonous to Live Stock" which will be sent to anyone on request, and contains details and photographs of the different poisonous weeds in Alberta, with information as to treatment should an animal eat any of them.

BOTULISM.

The first outbreak of botulism of any wide extent occurred this year in southern Alberta, although individual cases have occurred at various points throughout the Province.

The outbreak in Alberta was localized to one particular District, and confined to pastures in close proximity to irrigation ditches that were fed by two different lakes. Botulism is usually associated with stagnant water in low lying cultivated land. The symptoms are well marked, and may be described as follows: There is evident depression and dullness, during which period the animal may blunder into objects, and fall. There may be attacks of vertigo, which may cause immediate collapse. Likely, there

will be spasms of certain groups of muscles in the region of the head. Dilation of the pupil of the eye is evident. The temperature is normal at first, but rises after several days. The muscles of the throat are usually paralyzed, and inability to swallow is often present. On account of this fact, many animals died, resulting from the administration of medicines which went directly into the lungs and caused pneumonia. The nostrils are dilated, and the lips wrinkled. Faulty co-ordination of the muscles appears early, and there is a general weakness which causes a collapse of the joints of the legs. The course of the disease is believed to be from two to seven days, but may extend to two or three weeks.

Instructions were issued as to the best means of prevention. All sick animals should be isolated, and the food, water, and pasture changed at once. A line of treatment was suggested for the sick animals. About 200 horses in all were affected, and a large percentage of them were saved. There is a possibility that the disease may occur next year, and we are endeavouring to gather all the information possible, in order to be in a position to cope with the situation, should it arise during 1937.

It might be well to point out that botulism might very easily be confused with encephalomyelitis, the latter being a disease which has been prevalent in Manitoba and Saskatchewan for the past two years. For the benefit of those throughout the Province who are not familiar with either botulism or encephalomyelitis, the characteristic differential diagnosis is as follows: In botulism the temperature is either normal or subnormal, whereas in encephalomyelitis the temperature ranges from 103 to 106 until prostration, when it may become subnormal. In botulism food and saliva fall from the mouth because of the throat paralysis and inability to swallow, whereas in encephalomyelitis the animal has the ability to swallow, but falls asleep doing so, and occasionally food remains or falls from the mouth. In botulism the animal has the ability to walk in a straight line, but manifests extreme weakness due to toxemia, whereas in encephalomyelitis the animal cannot walk in a straight line due to vertigo and inco-ordination. In botulism the animal never switches the tail, whereas in encephalomyelitis the spasmodic switching of the tail is rather a usual occurrence.

Up to the present we have had no cases of encephalomyelitis in this Province. As stated in last year's Report, all practising veterinarians were notified of the symptoms of this disease, and asked to report any suspected cases, with the idea of controlling the disease should it make an appearance in this Province.

HAEMORRHAGIC SEPTICAEMIA.

This disease has been prevalent in both cattle and swine throughout the Province, and is commonly met with in herds of cattle that are being fed mouldy or spoiled feed. The scarcity of feed in the Province during the last year has aggravated this condition. The outbreaks were investigated and successfully combated as far as possible.

The disease in swine has caused considerable anxiety. We are of the opinion that it is largely preventive, and the proper use of disinfectant solutions is helpful. Good results have been obtained by the use of bacterins prepared from the specific organism that is producing the trouble. The good results that may be obtained from vaccination depend, of course,

upon accurate diagnosis. We are aware that some swine breeders claim that they do not obtain any beneficial results following the use of bacterins, but this may be expected, for the bacterin used may not have been suitable for the type of organism producing the disease in that particular outbreak. One often sees miraculous results in one herd following its use, while in another the results are apparently negligible.

BLACKLEG.

We have had considerable loss from this disease during the past twelve months in both cattle and sheep. The outbreaks in cattle occurred despite the fact that in the majority of cases the animals had been vaccinated previously. It was also noticeable that the disease affected older animals more than ever before in the history of the Province. Due to these facts, considerable confusion was caused among the farmers in various sections, but, following the recommendations of this Branch, in the way of improved vaccination, all outbreaks were successfully terminated.

There were several outbreaks of blackleg in sheep, the first time the disease has occurred in this class of live stock in this Province, to our knowledge. Only with the co-operation of the University of Alberta Laboratory were we able to diagnose the trouble, and were able to advise the owners of the affected animals the proper precautions to take to avoid further losses.

THE STALLION ENROLMENT ACT.

The stallions enrolled under The Stallion Enrolment Act show a considerable increase over the previous year. It is interesting to note that there is a large number of aged stallions enrolled, and a comparatively small number of young ones coming on to replace them. However, the Co-operative Purchasing Scheme is doing considerable to help this problem, and also to reduce the number of grade animals being used in Alberta.

Under the Act, a large number of stallions were inspected, particular attention being paid to conformation and soundness, and it appears as if this careful inspection will have an effect upon improving the horse industry in this Province. We are of the opinion that too much attention has been paid to colour, with the result that quality has been sacrificed. Several horses have been imported into the Province, which, it is expected, will do a great deal in the improving of our stock in this Province; and there is every reason to expect an increase in the horse industry in Alberta during the next few years.

The following table shows the total number of stallions according to breed, enrolled during the year 1936:—Percheron, 355; Clydesdale, 246; Belgian, 119; Thoroughbred, 15; Shire, 17; Suffolk, 9; Standard, 9; American Saddle, 2; Jack, 1.

LIGHT HORSE BREEDING.

The popularity of light horse breeding has been steadily increasing in Alberta for a considerable number of years, and it would appear to some men at least that it will develop into a sound and profitable business.

There are three classes of breeders interested in the raising of light horses;—first, those that are endeavouring to raise horses suitable for

heavy and light hunters. In this class we have several stallions both in the southern and northern parts of the Province, that are suitable for the breeding of this type of horse. They are under the control of the two Provincial Thoroughbred Associations. There is no doubt that these stallions are doing an immense amount of good, and the colts by these animals are being sought after by those interested in riding clubs both in Canada and in the United States.

The second class of breeders is the one interested in raising polo ponies, but there are only a few men in the Province who are attempting to breed this type of horse.

The third class, the breeding of race horses, is rapidly increasing in this Province, and the popularity of racing is very evident at the race meets held in both Edmonton and Calgary yearly. We think it is generally agreed that this Province is ideally adapted to the raising of Thoroughbreds. The soil in some parts of Alberta seems to stimulate growth and hardness of bone, and contains mineral properties which assist in developing horses especially. It is a general opinion that with proper breeding care we can raise better Thoroughbreds than any other Province in the Dominion. Some of our Thoroughbreds have done exceptionally well on western and eastern Canadian race tracks, as well as in the United States.

DOPING OF RACE HORSES.

Acting on instructions received from the Attorney General's Department, we supervised the collection of saliva samples from race horses for the purpose of detecting doping, at the various race meets held in Calgary and Edmonton during the past year. These samples were forwarded to Mr. J. A. Kelso, Provincial Analyst, University of Alberta, who completed the tests.

This work was undertaken owing to the numerous complaints received by the Attorney General's Department from the executives of the various Racing Associations, as well as requests from private individuals, for the purpose of preventing the use of narcotics at these meets. These drugs have a very detrimental effect on the health of the animal, especially in connection with future breeding operations. We are of the opinion that the work undertaken this year will have an effect in stopping this practice, and in improving Thoroughbred stock in the long run.

CO-OPERATIVE SCHEME FOR PURE-BRED STALLIONS.

The organization of groups of farmers to purchase pure-bred stallions under the Provincial Policy now in effect is, we believe, one of the greatest factors to stimulate the horse breeding industry in the Province. This Policy originated in Alberta, and has met with outstanding success. Many inquiries have been received from all over Canada regarding the details of this plan. Briefly, the plan is:—a group of farmers join together to purchase a horse, the price depending upon the number of mares to be bred. This is usually less than the farmer would have to pay in service fees in one season. A man is selected to care for the stallion, and, at the end of three years he becomes the owner. The details of the plan may be varied to suit the wishes of the group. The only expense entailed by the Government is the salary of the promoter of the scheme, who ad-

dresses Meetings and endeavours to get the group into contact with sellers of stallions. The freight is paid on the stallion from the place where bought to the new home, but, first of all, the horse must be approved by this Branch, and purchased in Alberta.

Many horses have been placed under this plan in outlying Districts where previously it has been impossible to secure a good stallion, and the stimulus to the horse breeding industry cannot be overestimated. Seventeen Clubs were formed last year, and asked for Government aid on freight, but there were also a large number formed who did not ask for any assistance in the way of freight, but this office assisted them in the way of giving advice, and in putting them in contact with sellers of stallions.

There is every reason to believe that a greater number of Clubs will be formed this year, as a great number of requests for information on some have been received. The Clubs that have been formed seem to be functioning well, and satisfaction has been expressed by the members in connection with the horse they have purchased. However, we realize that it is not the initial organizing, but constant supervision, which will result in the efficient service of these Clubs to the community. There is every reason to believe that a wide expansion of this policy could be undertaken with great success, as there are some parts of this Province that are, in our opinion, particularly adapted to the raising of horses, and every effort should be made to interest these sections.

COLT SHOWS.

In three different Districts, Colt Shows were held last fall. Colts competing were to be sired by the horse purchased under the Co-operative Purchasing Scheme in that District. Before the judging took place a short talk was given on the merits of the scheme, as well as on diseases likely to affect colts.

The Alberta Percheron Association donated three Silver Cups, and Mr. H. E. Salter, Secretary of the Association, along with a representative of this Branch, judged the colts. The Shows were considered successful, not only in popularizing the Co-operative Purchasing Scheme, but in stimulating an increased interest in the horse breeding industry, and it is to be hoped that they will be increased this coming year.

REPORT OF THE DAIRY COMMISSIONER.

(J. R. SWEENEY.)

The dairy industry in Alberta made substantial gains in all its branches during the year 1936. In spite of an unusually cold winter, a shortage of fodder in the southern section of the Province, and serious drought conditions during the pasturing season, milk production shows a very satisfactory increase.

The output of creamery butter amounted to 25,491,105 pounds, compared with 23,094,707 pounds in 1935, or an increase of 10.4 per cent. Cheese production amounted to 1,451,735 pounds, which was an increase of 6.4 per cent. Ice cream sales increased by 32.5 per cent. The quality of cream, butter, and cheese showed satisfactory improvement, and the total value of all dairy production amounted to \$15,505,800, compared with \$14,252,500 for 1935.

A summary of production and values is presented in the following Statement:—

QUANTITIES AND VALUES OF DAIRY PRODUCTS
(1936—FINAL).

	Pounds.	Price.	Total Value.
Creamery Butter	25,491,105	\$.216	\$ 5,501,767
Home Dairy Butter.....	13,000,000	.160	2,080,000
Factory Cheese	1,451,735	.130	190,469
Home Dairy Cheese.....	225,000	.110	24,750
Ice Cream (gallons).....	497,101	1.150	570,791
Milk and Cream consumed, fed to animals, or otherwise utilized....	.....	...	7,138,023
Total			<u>\$15,505,800</u>

(1935—FINAL).

	Pounds.	Price.	Total Value.
Creamery Butter	23,094,707	\$.199	\$ 4,588,917
Home Dairy Butter.....	13,000,000	.150	1,950,000
Factory Cheese	1,364,526	.123	168,280
Home Dairy Cheese.....	225,000	.100	22,500
Ice Cream (gallons).....	375,299	1.200	452,459
Milk and Cream consumed, fed to animals, or otherwise utilized....	.....	...	7,070,344
Total			<u>\$14,252,500</u>

MILCH COWS.

A Report from the Dominion Bureau of Statistics shows that, according to the June 1st estimates, there are 449,600 milch cows in Alberta, compared with 464,200 as of the same date in 1935.

As the drought conditions became more serious after the estimates were made, it is the general opinion that a considerable decrease in the number of cows took place in southern Alberta during the fall months. While some of the milking stock may have been sacrificed in the dry areas, it is reported that only the poor cows were dispensed with, and large numbers were moved to the central section of the Province, where feed was plentiful. The number of bred heifers shows a decrease, and this factor may account for a further decrease in the number of milch cows during the coming year.

DAIRY DEVELOPMENT.

It is impossible to survey the dairy situation in Alberta without being convinced that dairying is showing signs of permanency in several well defined areas. The northern and central sections of the Province show the greatest development, and there is every indication of a growing interest in dairying in the irrigation areas of the Province. Improved buildings, an increase in the number of dairy cows, and a wider interest in the growing of fodder crops and cultivated pastures are convincing signs of progress in dairying.

In this Province a very large proportion of the butter fat production comes from the average half-section farm, where ordinary grade cows are kept for both milk and beef, and where housing conditions are unsuitable for the exclusive dairy breeds. It is the general impression, however, that dairying is emerging from the pioneer stage. There is an increase in the number of cows of the dairy breed; the open sheds and improvised buildings are being replaced by well constructed dairy barns; and the "straw-stack" dairy man is being replaced by a producer who has the essentials of a good stock man, and a good farmer. The summer dairy man is giving way to the year round producer; and the increased acreage of alfalfa, sweet clover, and cultivated pastures, particularly in the gray soil and wooded areas, are unmistakable signs of permanency in dairying.

It is a tribute to the resourcefulness of many farmers that so much progress has been made, where conditions have not been very favourable, and where severe winter temperatures add to the hardship of milk production.

COW TESTING SERVICE.

Cow testing has not received the attention it deserved, owing to the fact that a supervisor for this work could not be provided.

There are 531 cows being tested under the "Mailing System", whereby the farmers send samples of milk to this Branch to be tested. This service provides the herd owners in outlying Districts with the means of obtaining information regarding the butter fat production of his cows. This system is of considerable value, but at once it must be recognized that it is not a complete service, since the herd owner is obliged to take the samples and record daily milk yields without the assistance and encouragement which the occasional visit of a field supervisor would provide.

Through the co-operation of 6 Creamery managers, 61 herds, comprising 689 cows, are being tested. There, again, the work is likely to be abandoned unless the services of a dairy promoter can be provided to supervise and organize this very important herd improvement service. It is regrettable that many breeders of pure-bred cattle are selling breeding stock from untested and unrecorded dams; and, on account of this, it is earnestly hoped that conditions may warrant the provision of funds to take care of the demands for an extension of the cow testing work undertaken by this Branch.

CREAMERIES.

There were 96 Creameries operated during the year. The Chipman Creamery, which was destroyed by fire, was not rebuilt, and no new creamery licenses were granted during the year. Extensive alterations and

improvements have been made in a number of plants, and the new equipment installed during the year exceeded the usual replacement of obsolete machinery. These improvements to plants and equipment are conducive to better and more uniform quality in the butter manufactured.

CREAM.

The campaign to improve the cream supply, carried on by this Branch, in co-operation with the Creamery operators, has shown most encouraging results. A circular entitled "A Message to Cream Producers" was distributed to 45,000 cream shippers during the year, and further instructions on the production of Special Grade cream were supplied to creamery operators for distribution to patrons who were shipping low grade cream. Licensed cream graders and creamery operators have made splendid progress with local patrons in reducing the deliveries of low grade and weedy cream.

The following Statement shows the classification of cream as received and graded at Alberta creameries:—

AVERAGE TESTS AND GRADES OF CREAM.

	1936.		1935.		1934.	
	Pounds.	%	Pounds.	%	Pounds.	%
Cream Received	64,330,141	...	57,777,305	...	62,754,852	...
Average Test .....	.....	( 33.8)	.....	( 33.9)	.....	( 33.8)
Butter Fat—						
Table Grade	608,093	(2.8)	574,826	(2.9)	416,334	(1.9)
Special Grade	13,939,307	(64.1)	11,991,878	(61.3)	13,501,951	(63.7)
First Grade	6,461,749	(29.7)	6,123,768	(31.3)	6,488,913	(30.6)
Second Grade	688,469	(3.2)	837,609	(4.3)	784,944	(3.7)
Off Grade	43,087	(.2)	33,237	(.2)	17,411	(.1)
Total	21,740,705	100.0	19,561,318	100.0	21,209,553	100.0

CREAMERY INSPECTION AND INSTRUCTIONS.

The Creameries are visited periodically by Inspectors of this Branch, who check the observance of the cream grading standards. During the year the Inspectors made 2,130 visits to Creameries, grading 84,082 cans of cream, and checking 28,084 Babcock tests. In addition to checking weights of cream and examining Creamery records, the Dairy Inspectors give instructions on cream grading, testing, and methods of manufacturing creamery butter. Since the staff of Inspectors has been increased it has been possible to make more frequent inspections, and the reports indicate a more careful observance of the grading standards and a decided improvement in the technique followed in the Babcock testing work.

STATEMENT OF CREAMERY BUTTER GRADED (PASTEURIZED)

FEDERAL REPORT.

(56-pound boxes and samples.)

Year.	Total Pounds Graded.	First Grade.	Second Grade.	Third Grade.	No Grade.
1933.....	19,310,427	78.0	15.6	5.9	.5
1934.....	20,787,628	76.3	17.1	6.0	.6
1935.....	19,081,270	83.0	10.5	6.0	.5
1936.....	21,584,080	87.4	7.4	4.4	.8

The improvement in First Grade butter is most encouraging. It reflects the general results of careful cream grading, and it indicates improved manufacturing methods in the Creameries.

BUTTER COMPETITIONS.

Creamery Butter Competitions have been recognized as a means of instruction for butter makers, and are conducive to the improvement of quality. During the year Alberta butter makers were awarded 654 prizes at the 10 largest Exhibitions,—held at Brandon, Regina, Saskatoon, Calgary, Edmonton, Vancouver, Canadian National (Toronto), London, Ottawa, and the Royal Show (Toronto). The Silver Medal for the best butter shown in prints, at the Canadian National Exhibition, Toronto, was awarded to Alberta butter for the second year in succession. This large number of prizes won represented 40 per cent. of all the awards for butter in these highly competitive contests, and the favourable publicity resulting from this success is an asset in the marketing of Alberta butter outside the Province.

CHEESE.

There were 12 Cheese Factories operated in the Province during the year, with an average output of 120,978 pounds per plant. A new Factory was built at Linden, by the Linden Co-operative Dairy Company, Limited. The quality of milk delivered to the Cheese Factories showed much improvement, and the cheese made during the year showed a marked improvement in flavour and workmanship. The position of Alberta cheese in the retail trade has improved considerably, and a larger output could be disposed of in the Province.

Alberta cheese was awarded all the first prizes at the Vancouver and Edmonton Exhibitions.

LABORATORY SERVICE.

The Laboratory service maintained by this Branch, at the University, continues to provide valuable information respecting the sanitation of Creameries, efficiency of manufacturing methods, suitability of water supplies, and causes of deterioration in butter. The mould and yeast analyses of butter, over a period of years, has resulted in improved sanitation and remarkably low mould and yeast counts in Alberta butter.

AVERAGE MOULD AND YEAST COUNTS OF ALBERTA BUTTER.

Year.	Number of Analyses.	Moulds.	Yeasts.
1932.....	2,529	13.0	569
1933.....	2,093	12.0	878
1934.....	2,128	6.0	207
1935.....	2,177	4.6	217
1936.....	2,496	3.3	275

There were 2,496 counts made for 74 Creameries during the year, and, as in former years, the exhibits at the Calgary and Edmonton Exhibitions, and the Dairy Convention Contests, were analyzed in the Dairy Branch Laboratory.

INSTRUCTIONAL WORK.

As in former years, a Creamery Short Course, covering a period of four weeks, was conducted jointly by this Branch and the Department of Dairying at the University. This Course was restricted to 20 students, who had at least one year's experience in a dairy plant, and it is the general belief that, as soon as arrangements can be completed, a much longer Course should be offered for the training of young men employed in the dairy plants of this Province.

A Short Course, covering a period of one week, in cheese making, was offered to the cheese makers, in March, and was attended by makers and assistants from 10 of the 12 Cheese Factories operating in the Province. The services of Mr. T. J. Hicks, of the Dominion Dairy Branch, Montreal, were obtained as instructor for this Course, and those taking the Course expressed appreciation of its usefulness.

NEW DEVELOPMENTS.

The outstanding new development of the year was the establishment of a Milk Condensery at Red Deer, which was built by the Central Alberta Dairy Pool, Limited. This new plant, the first of its kind in the prairie provinces, offers a new market outlet for the producers of the Red Deer and adjoining Districts, and it marks another milestone in the steady growth of the dairy industry.

THE STAFF.

C. C. Gillespie and Alex Ross were added to the staff, as Dairy Inspectors, during the year.

NEW WORK.

At the request of the milk producers at Edmonton, Calgary, and Lethbridge, this Branch has undertaken an extension of the supervision and checking of milk grades, weights, tests, and sampling methods, and Dairy Inspectors at these points are devoting special attention to milk, in the interests of the producers.

Revenues from Creamery and Cheese Factory licenses amounted to \$585; graders' and testers' license fees amounted to \$460; and fees from herd owners registered in the Cow Testing Service amounted to \$64;—a total of \$1,109 in revenues received.

The Creamery operators have suggested an increase in the staff of Inspectors to supervise cream grading, and by resolution authorized increased levies to defray the added costs.

As in former years, the surplus from the Cream Grading Trust Account was refunded to the Creamery operators. The Trust Account was duly audited and found in order, with improved collections and ample reserves for bad accounts.

RECOMMENDATIONS.

The staff of this Branch is now well organized to serve the manufacturing section of the industry, and to promote policies to further improve the quality of the processed products. The urgent need is the provision of funds to provide an extension of the Cow Testing Service and the appointment of a properly qualified man to supervise herd improvement work in the areas of the Province where dairying shows signs of permanency.

DATA.

There is attached to this Report a number of Tables which set forth the details of estimated dairy production for 1936, and statistical information concerning dairying in former years.

DEPARTMENT OF AGRICULTURE

MONTHLY AVERAGE NET PRICES PAID BY CREAMERIES IN ALBERTA
PER POUND OF BUTTER FAT IN "SPECIAL GRADE" CREAM,
F.O.B. SHIPPING POINT, FOR FOUR YEARS.

	1936		1935		1934		1933	
	F.O.B.		F.O.B.		F.O.B.		F.O.B.	
	Cents.	%	Cents.	%	Cents.	%	Cents.	%
January	21.0	(4.6)	18.3	(4.6)	21.25	(4.7)	17.4	(4.6)
February	20.4	(4.5)	21.3	(5.0)	22.65	(5.2)	17.4	(5.0)
March	18.5	(4.7)	20.5	(5.3)	26.85	(5.9)	18.1	(7.0)
April	18.0	(5.5)	19.5	(5.7)	28.65	(7.4)	16.2	(6.5)
May	17.9	(8.5)	19.7	(7.7)	16.25	(11.5)	16.6	(11.8)
June	17.3	(14.9)	16.5	(15.3)	14.15	(16.6)	14.4	(14.1)
July	19.2	(15.3)	15.5	(16.1)	12.65	(16.1)	14.4	(14.3)
August	20.8	(13.2)	15.5	(14.3)	12.65	(12.0)	13.4	(14.1)
September	22.0	(11.0)	16.3	(10.2)	13.15	(7.8)	12.4	(7.5)
October	23.4	(8.5)	18.9	(6.4)	13.65	(5.1)	14.4	(5.8)
November	21.0	(5.2)	21.0	(4.7)	14.65	(3.9)	14.9	(5.4)
December	21.0	(4.1)	21.5	(4.7)	15.65	(3.8)	17.2	(3.9)
The year	19.89	(100.0)	18.01	(100.0)	17.10	(100.0)	15.2	(100.0)
Six winter months.	19.90	(28.6)	20.28	(30.0)	22.89	(30.9)	16.8	(32.4)
Six summer months	19.87	(71.4)	16.79	(70.0)	13.89	(69.1)	14.4	(67.6)

NOTE.—The figures inclosed in brackets represent the monthly percentages of the cream receipts for the year.

CREAMERY BUTTER PRODUCTION.

Year.	Creameries.	Pounds Butter.	Selling Value.	
			Total.	Cents per Pound.
1920.....	53	11,821,291	\$6,555,509	(55.45)
1925.....	99	19,630,101	6,959,059	(35.45)
1930.....	92	17,716,744	4,968,227	(28.04)
1931.....	93	22,957,922	4,711,231	(20.52)
1932.....	95	21,016,048	3,512,685	(16.71)
1933.....	96	23,852,350	4,308,962	(18.10)
1934.....	96	25,601,447	4,830,793	(18.80)
1935.....	97	23,094,707	4,588,917	(19.90)
1936.....	96	25,491,105	5,501,767	(21.60)

FACTORY CHEESE PRODUCTION.

Year.	Factories.	Pounds Cheese.	Selling Value.	
			Total.	Cents per Pound.
1920.....	7	398,750	\$ 110,355	(27.70)
1925.....	14	1,473,835	306,604	(20.80)
1930.....	8	1,035,352	175,392	(16.94)
1931.....	10	1,040,588	118,390	(11.38)
1932.....	12	1,439,715	146,177	(10.15)
1933.....	11	1,437,387	149,593	(10.40)
1934.....	11	1,370,425	154,138	(11.20)
1935.....	11	1,364,526	168,280	(12.33)
1936.....	12	1,451,735	190,469	(13.00)

TOTAL ANNUAL VALUE OF DAIRY PRODUCTS.

1900.....	\$ 546,476	1931.....	\$15,750,000
1910.....	7,855,761	1932.....	11,850,000
1915.....	15,896,586	1933.....	12,950,000
1920.....	34,000,000	1934.....	14,391,204
1925.....	23,002,000	1935.....	14,252,500
1930.....	18,675,500	1936.....	15,505,800

MILCH COWS.

Year.	Cows.	Year.	Cows.
1901.....	46,101	1931.....	385,000
1906.....	101,235	1932.....	424,000
1911.....	147,687	1933.....	406,520
1916.....	277,324	1934.....	461,700
1921.....	432,838	1935.....	464,200
1926.....	436,500	1936.....	449,600

REPORT OF THE FIELD CROPS COMMISSIONER.

(O. S. LONGMAN.)

The 1936 crop season, from the standpoint of crop yield, proved to be most disappointing. The crop, which was seeded under very favourable climatic conditions, made rapid and satisfactory growth until about the middle of June. At that time practically the entire prairie and adjoining foothills sections of the Province began to suffer from lack of rain. Extremely high temperatures prevailed during the latter part of June and early July, which resulted in practically a crop failure over the prairie section of the Province.

Throughout the north-central section of the Province the crop yields varied widely, but, on the average, could be said to be fair; while the Peace River District produced one of the most bountiful and profitable crops in its agricultural history. The improvement in the market price of cereal crops greatly improved the financial position of the farmer in the favoured areas, and is indicative of how rapidly re-adjustment can be effected when satisfactory yields and prices are secured.

The hail damage for the year was above normal. The Districts affected included Rocky Mountain House, Innisfail, Olds, Castor, Drumheller, Wetaskiwin, Ponoka, Bashaw, and many other areas. There does not appear to be adequate statistical information relative to hail damage available. Information submitted to the Department indicates that the hailed area exceeds 3,000,000 acres; the extent of crop damage within this area is not available.

There was an increasing interest in the production of grass and clover seed, particularly in the north-central section of the Province. The prevailing prices have been satisfactory. A satisfactory demand for most seeds, both for domestic and export markets, existed during the close of the year.

The estimated acreage and production of the leading field crops for the year 1936 is as follows:—

Wheat	7,360,000 acres.	70,000,000 bushels.
Oats	2,454,000 acres.	51,534,000 bushels.
Barley	1,036,000 acres.	17,094,000 bushels.
Rye	151,900 acres.	792,000 bushels.
Flax	17,000 acres.	80,000 bushels.
Alfalfa Seed	16,708 acres.	290,320 pounds.
Sugar Beets	18,500 acres.	204,000 tons.
Hay and Clover.....	367,000 acres.	424,000 tons.

WEED CONTROL.

The enforcement of The Noxious Weeds Act was obtained through the appointment of 9 Field Supervisors and 20 Improvement District Weed Inspectors. The programme was much larger than those of the past few years, and a definite attempt was made to cover the whole Province. Each Municipal District was asked to appoint at least one Weed Inspector, and the Field Supervisors encouraged a more active anti-weed campaign by assisting the local Weed Inspectors, and investigating various complaints. The Improvement District Weed Inspectors carried on the campaign in the unorganized areas. There was also a small sum of money available for

chemical control of weeds, the Government expending dollar for dollar with Municipal Districts, up to \$50. Chemicals were also available to Improvement District Weed Inspectors, for treating weeds on Government land.

A determined effort was made on the part of the Department and the farmers concerned in the eradication of Hoary Cress, Leafy Spurge, and Russian Knapweed. Chemical was supplied to land owners for use in destroying these new weeds, which promise to be a serious menace to agriculture in this Province, if not checked. Special investigation into the infestation of the range areas of southern Alberta by Downy Brome Grass or Cheat Grass was carried out. This grass promised to become a serious menace over grazing ranges in the southern section of the Province. Details of this investigation are contained in a special Report.

The following is a summary of the activities:—

Number of Improvement District Weed Inspectors.....	20
Number of Improvement Districts covered.....	106
Number of Field Supervisors.....	9
Number of Municipal Districts covered.....	139
Number of Municipal District Weed Inspectors.....	385
Special (Supervisor of Weed Control on Lake-shores).....	1

SEED EXHIBITIONS AND COMPETITIONS.

During the year 1935 it was decided to discontinue holding one Provincial Seed Fair and undertake the holding of several District Seed Fairs, having a Provincial Competition of all winners at the last held Seed Fair. In 1936 there were three Seed Fairs held, namely, Lethbridge, Grande Prairie, and Calgary. The purpose of this re-organization was to bring them within proximity of a greater number of people, and if possible, to increase the educational value. As years pass, the new arrangement will be studied and appraised.

The entries at the respective Fairs were as follows:—

	Open Classes.	Junior Classes.	Total.
Grande Prairie	52	24	76
Lethbridge	151	19	170
Calgary	240	71	311
Total	<u>443</u>	<u>114</u>	<u>557</u>

Alberta exhibitors were given assistance in assembling and shipping. Shipping costs were paid to the International and Royal Seed Shows. Prize money at Chicago was duplicated by the Department, and exhibitors winning Championships were awarded an honorarium. This year the Championship in wheat at the Toronto Royal and Championships in wheat and oats at the Chicago International were won by Mr. Herman Trelle, of Wembley, which is a notable achievement.

The Province's record at these Shows is as follows:—

ROYAL WINTER FAIR, TORONTO.

Number of entries.....	45
Number of prizes won.....	30
Number of Championships.....	3

INTERNATIONAL HAY AND GRAIN SHOW, CHICAGO.

Number of entries.....	72
Number of prizes won.....	46
Number of Championships.....	3

INSECT PEST CONTROL.

During the summer of 1936 Alberta once more experienced a grasshopper outbreak of considerable importance. The area infested was that part of the Province east of the 5th Meridian and south of a line drawn from the intersection of Township 30 with the 5th Meridian to Township 41 on the Saskatchewan border. Very few grasshoppers were found south of Township 24 and east of Range 15, but severe infestations occurred around Drumheller, Nanton, and Provost.

The outbreak developed very rapidly due to warm spring weather, and early results obtained from spreading bait were excellent. On account of unfavourable weather, the crops suffered severely, and difficulty was experienced in persuading discouraged farmers to poison during the adult stage. These conditions, ideal for egg laying, continued into the fall, and it would appear that another outbreak in 1937 is almost certain to occur.

The following is a summary of the grasshopper campaign:—

Total area infested.....	14,000,000 acres
Acres of crop menaced.....	3,234,000 acres
Number of Bait Stations operated.....	77
Number of pounds of wet bait distributed.....	26,926,771
Number of farmers who received bait.....	9,763
Estimated percentage of crop destroyed.....	4.5
Estimated percentage of crop saved.....	31.5

The control of insect pests in the Province is becoming a major factor in crop production. In addition to grasshoppers, other insect pests, such as cutworms, wireworms, sawflies, and Sayes plant bug, have appeared. This latter insect has recently caused damage in the United States, and its migration into Alberta from Montana is sufficient cause for alarm. So little is known of its habits and life history that no adequate control measures have yet been devised; the cultural practices recommended for its control conflict with those considered best for the prevention of soil drifting, namely, retaining a trash cover on the surface of summer-fallow. The steady increase in the prevalence and loss caused by insect pests point to the necessity that more effective methods of control be instituted and that the Province must be prepared to accept greater responsibility both as to cost and administration of the necessary control measures.

Valuable assistance was given to the Branch by Mr. H. L. Seaman and staff, of the Entomological Laboratory at Lethbridge, and Professor Strickland, of the University of Alberta, who acted in advisory capacities on numerous occasions.

JUNIOR GRAIN CLUBS.

The general programme for Junior Grain Clubs was similar to that of the past several years. The number of Clubs was reduced somewhat, but more careful supervision was given by Department fieldmen. On account of the early fall frost in 1935, more new seed was required by Club members than usual. On payment of membership fees, the following quantities of Registered or Certified seed were supplied to Club members:—

Clubs obtaining new seed—	Members.	Bushels.
Wheat (34)	427	2,030
Oats (21)	279	2,621
Barley (13)	54	726
Flax (2)	32	48
Corn (1)	10	2
71 Clubs	802	5,427

Any additional cost of seed over and above the membership fee was taken care of by the Club sponsors. These sponsoring organizations are as follows:—

Wheat Clubs—Alberta Wheat Pool.

Oat Clubs—United Grain Growers.

Barley Clubs—Canada Malting Company.

Flax Clubs—Alberta Linseed Oil Company.

In addition to supplying seed, the sponsors provided free trips to central points for the winning member in each Club, where the boys were entertained and provision was made for Agricultural Short Courses.

The Grain Clubs in 1936 were as follows:—

	Number of Clubs.	Membership.
Wheat	53	890
Oats	22	410
Barley	13	220
Flax	2	32
Potatoes	1	14
Corn	1	10
Total	92	1,576

Ben Redfern and Alton Bishop, of the Settler Club, represented Alberta at the National Grain Judging Competitions at Toronto, obtaining third place in the Contest.

SEED EXCHANGE POLICY.

This Policy, which has been in effect for several years, was the means again this year of supplying many farmers with pure seed.

Registered and Certified seed growers cleaned the seed to a high standard of purity and shipped in bulk to groups of farmers who agreed to accept car-lots. The Dominion Department of Agriculture prepaid the freight on these shipments. Grain Companies paid track prices on grain delivered in payment for cleaned seed and arranged also to weigh and record deliveries without charge.

Thirty car-lots were handled, as follows:—wheat, 2,250 bushels; oats, 55,370 bushels. Number of farmers obtaining seed under the Policy, 462.

Freight was prepaid also by the Dominion Department of Agriculture on Registered and Certified seed in sacks, on approximately 12,000 bushels of seed.

SEED DRILL SURVEY.

The sampling of seed grain from farmers' seed drills in the spring of 1935 proved to be of such interest and information to the farmers concerned that the programme was extended in 1936. A total of 460 samples were obtained and planted at the Olds and Vermilion Schools of Agriculture, to determine the purity of variety from growing tests. Part of each sample was tested by the Dominion Seed Branch for germination and admixtures of impurities. Reports went forward to each farmer concerned with respect to the purity of variety of his seed; also mentioning the germination and impurities found.

FORAGE CROP PROGRAMME.

The Forage Crop Seed Distribution Policy, financed by the Dominion Department of Agriculture, which has been in effect for several years, has enabled many farmers to obtain grass and clover seed on the re-

payment of one-half the cost of the seed within two years. During the spring of 1936 approximately 767 farmers obtained seed under this plan. This Policy has been the means of increasing to a considerable extent the acreage in cultivated grasses and clovers in the Province, as well as inducing a number of farmers to produce seed for their own use and for sale throughout their immediate localities.

DISTRICT SEED CLEANERS.

Portable grain cleaners, which were purchased during the past several years by District Associations, with the aid of grants from the Dominion and Provincial Departments of Agriculture, have this year increased their services to farmers in their respective Districts. Cleaners are now located at Fairview, Grande Prairie, Lacombe, South Edmonton, Sangudo, Vegreville, and Camrose.

The seed cleaner at Camrose was installed in the spring of 1936. This assembly is equipped especially for the cleaning of grass and clover seeds.

ALBERTA SEED GROWERS' ASSOCIATION.

During 1936 the officers of the Alberta Seed Growers' Association were: President, H. P. Wright; Vice-President, T. H. Howes; Directors, A. M. Smith, R. Mueller, H. G. Houlton, C. Scott, O. S. Longman, H. Boe, H. Clayton; Secretary, E. H. Buckingham.

This Association has as members all growers of Registered and Certified seed in the Province. It co-operates with the Branch in arranging the distribution of pure seed. Thirty cars of bulk seed were handled, and the following quantities of seed were sealed in sacks:—

Registered and Certified Wheat.....	4,600 bushels
Registered and Certified Oats.....	3,440 bushels
Registered and Certified Barley.....	1,030 bushels
Grass and Clover Seed.....	420 bushels

ALBERTA POTATO GROWERS' ASSOCIATION.

This Association consists of organized groups of Certified seed potato growers at Lacombe, Millet, Sedgewick, and Warburg. Co-operating with the Branch there were held six Potato Field Days. The Annual Meeting was held in connection with a Field Day at the farm of W. R. Squance, Warburg. The officers for 1936 were:—President, J. A. Bradley; Vice-President, Charles Scott; Directors, F. T. Rickett, F. Ash, T. H. Howes, W. C. Dowdell, Charles Ball; Secretary, E. H. Buckingham.

CROP IMPROVEMENT FIELD DAYS.

Fieldmen of this Branch co-operated with the National Crop Testing Plan at 16 Field Days. These Field Days were held at points where elevator agents had collected samples of wheat from loads entering the elevator. The samples were planted in plots, and during the Field Day programme the individual plots were analyzed for purity of variety, and the farmers concerned were informed as to the purity of their wheat.

Field Days for Junior Grain Clubs, numbering 38, were held at points convenient for assembly of Club members and others in the Districts concerned.

AGRICULTURAL RELIEF.

The Agricultural Relief Policy outlined in the 1935 Report of the Field Crops Commissioner was continued until May 31st of this year.

On account of the severe winter of 1935-36 more and more appeals were made for assistance, and by the end of the relief year there were few Municipalities in the Province that had not been obliged to extend aid in purchasing feed for some one in the District. Even in the best Districts local conditions were such that some farmers were unable to buy their own feed supplies, and Government assistance was required to obtain it from their neighbours.

At the 1936 Session of the Legislature, The Agricultural Relief Advances Act was passed to provide permanent legislation for advancing to Municipalities funds to supply seed, feed, fodder, and fuel oil to indigent farmers, assistance having been provided heretofore pursuant to temporary legislation.

A very severe drought was experienced in the summer of 1936 over a large portion of the Province. The entire area south and east of a line drawn from Wainwright to Cochrane being more or less severely affected. In order to meet the situation created by this condition, the Dominion Government has entered into certain agreements with the Province; a Feed Relief Policy has been provided under this arrangement, which will provide financial assistance from the Dominion Government over a large portion of the area mentioned. Application has been made to have the area covered by this Policy extended, and we have received assurance that considerable additional territory will be taken into this agreement. Until such time as these Districts may be included, many of them are being provided with feed relief under The Agricultural Relief Advances Act. Other agreements with the Dominion have been entered into for the purpose of assisting in a reduction of the amount of live stock to be wintered in the drought area. These policies include a reduction in rates on feeder cattle, which has been administered by Dominion officials. A policy has also been entered into for movement of cattle to Packing Plants, to be processed under special agreements with the Packing Houses. The policy for movement of cattle to winter feeding places was renewed, and has been handled as previously by the Provincial Live Stock Branch. The same Branch has handled the policy for movement to Packing Houses. Provision was again made for movement of settlers from the drought area to more favourable parts of the Province, this policy being handled by the Bureau of Relief and Public Welfare, Department of Public Health, during the present season.

The usual co-operation has been received from Railways and Grain Companies in connection with the handling of relief agreements, the Railways making the same contribution as previously, namely, one-third of the usual freight rates. The Grain Companies are assisting this year in connection with the feed policies by making available their facilities for weighing and distributing grain and hay free of charge.

At present the administration of Feed Relief Policies, and the Relief Settlement Plan are being handled by the Relief Branch of the Department of Agriculture, which was organized in the fall in order to co-ordinate the various Agricultural Relief Policies which might be put into effect. Although the details of administration of Live Stock Policies have been handled under the Live Stock Branch, as mentioned above, this work has been done in close co-operation with the Relief Branch of the Department, in order that the Feed and Live Stock Policies might not conflict with each other.

The following is a summary by car-load lots of the feed and fodder shipments made during the year:

Spring (January 1st to May 31st, 1936)—

Free Freight Policy: grain, 185; fodder, 423;

Fodder Loan Policy: grain, 490; fodder, 1,399;

Fall (August 20th to December 31st)—

Free Freight Policy: grain, 181; fodder, 640;

Fodder Loan Policy: grain, 370; fodder, 682;

making a grand total of 4,370 cars.

SEED.

In the 1935 Report mention is made of a seed shortage due to frost. In the spring of 1936 a programme was undertaken by this Branch for distribution of seed in co-operation with the Department of Municipal Affairs. Stocks were acquired by the Department of Agriculture, which also attended to shipments and distribution, and generally supervised the Policy. The Department of Municipal Affairs attended to the keeping of records and the payment of accounts. Seed was distributed in 75 per cent. of the Municipal and Improvement Districts.

The total amount of grain distributed for seed is given herewith:—wheat, 684,656 bushels; oats, 799,610; barley, 162,344; rye, 6,249; flax, 30.

All this grain was distributed pursuant to The Agricultural Relief Advances Act passed at the 1936 Session of the Legislature.

The supply of seed oats is expected to be ample, as a large crop was harvested in the Peace River District, and surplus stocks held by the Government from the spring of 1936 will ease the situation considerably. Seed barley would also appear to be available in sufficient quantities to meet all requirements.

At the time of writing this Report no policy for acquiring further supplies of seed grain has been formulated by the Department of Agriculture.

The severe drought which was prevalent in all of southern Alberta during the past season will no doubt create the necessity for distribution of a large amount of seed under some form of Government assistance. We expect that a considerable amount of the seed wheat required will be available from local supplies, but some will have to be shipped in from more favoured Districts.

FUEL OIL POLICY.

A limited policy was put into effect to supply fuel oil to farmers in some Municipalities in quantities sufficient to put in the crop, but not for summer-fallowing or other farm operations. The distribution of this type of assistance was provided for in The Agricultural Relief Advances Act passed at the 1936 Session of the Legislature. The total number of farmers who obtained assistance under this policy was 875.

RELIEF SETTLEMENT PLAN.

An agreement between the Dominion and Provincial Governments for continuation of the Land Settlement Plan was completed during 1936, and assistance for the settlement of families eligible for relief is being extended.

The plan now provides for a loan of \$700, to cover a period of three years, where the family consists of settler and wife only. When there are

children under the age of 16 years in a family, a slight increase in the loan is provided, based on the number of such children as at date of application. Under the loan, as outlined above, the Dominion, Province, and Municipal District responsible for the administration of relief share equally in moneys expended.

Applications have been received from men who were in receipt of Provincial relief, and in such cases there was no Municipal District to participate in the loan. Under the 1934 agreement it was possible to approve these applications for a sum not to exceed \$400, to cover a period of two years, plus an extra \$100 for third year sustenance where necessary. With the completion of the 1936 agreement, \$600, to cover a period of three years, is now available. This amount is shared equally between the Dominion and Provincial Governments.

Upon recommendation of the Municipal District desiring to place settlers, and willing to participate in expenses of the loan, applications are considered by the Advisory Committee. This Committee, which is comprised of representatives of the Soldier Settlement Board, the Canadian Pacific Railway, the Canadian National Railway, and the Provincial Department of Agriculture, dealt with 76 applications during 1936. It is realized that only those families with the necessary experience, aptitude and condition of health should be accepted for settlement, and the fact that only 38 of these families were approved shows that the utmost care in selection is being exercised. Forty-one land inspection reports were also dealt with by the Advisory Committee, of which number 8 were declined.

Applications were considered for continuation of sustenance during the third year, as provided for in the Dominion-Provincial agreement of 1934, and 251 were approved. In cases where it was shown that further purchase of live stock or equipment would offer the settler an opportunity of becoming self-supporting, such articles were approved for purchase in lieu of sustenance. This practice of using funds for farm necessities, rather than for the purchase of groceries, has been encouraged. In this way the settler is often able to provide his own sustenance, and the fact that he is providing for his family and at the same time adding to his material effects tends to foster the spirit of independence which must be considered as the basis of the Land Settlement Plan.

A great deal of interest is still being shown in the scheme, and numerous inquiries are being made. Some of these, however, are from single men, men who are residing on their lands at the present time, and others who cannot be considered eligible for settlement under existing Regulations. The actual number of applicants settled during 1936, together with the Municipalities of origin, are shown below:—City of Edmonton, 17; City of Calgary, 1; City of Red Deer, 1; Municipal Districts, 7; Local Improvement Districts, 5;—a total of 31.

The City of Calgary decided in the spring of 1936 to temporarily withhold applications, but there appears to be a renewal of interest from that City, and settlement may be expected to continue.

The Inspectors' reports for 1936 show very satisfactory progress made by the majority of settlers, and it is believed that 50 per cent. of the total placements will establish themselves permanently on the land. There are at the present time approximately 60 families who are self-supporting, and in two or three cases repayments have already been commenced.

REPORT OF THE POULTRY COMMISSIONER.

(G. M. CORMIE.)

In the early part of 1936 egg prices were on a satisfactorily remunerative basis. During the previous fall poultry meat, and particularly turkeys, commanded a good price, too. This, in addition to low feed costs and crop failures in many parts of the Province, resulted in farmers increasing their poultry holdings quite extensively. Fairly good prices prevailed during the spring and summer months, and the price for eggs, particularly during the early fall months of 1936, continued to be good. Poultry meat prices, however, were on an exceedingly low level,—so low, indeed, that the general tendency among poultry producers was to pay little attention to the fattening of their poultry before marketing. Turkey prices were disappointing, although not nearly so low as those for chicken meat.

Unfortunately, however, with feed prices advancing sharply in the late fall months, and production of eggs above normal, due to more poultry in the country and mild weather, the egg market commenced to slump, and the end of the year found poultry men in rather a bad situation. With feed prices as much as twice as high as they were a year ago, and egg prices considerable lower, a grave situation is developing. On account of this situation, producers are peddling their eggs from door to door and from store to store, further depressing the market and aggravating conditions. The carry-over of eggs in storage is normal, or even below normal, and it would appear as if some effort to re-establish and maintain orderly marketing would improve the situation.

Following the establishment of Hatchery Regulations in Alberta, and the organization of the Alberta commercial hatchery men, the next important step during 1936 was a move to organize the hatching-egg producers of the Province. This group, consisting of approximately 800 farmers and poultry men, met in Meeting at Red Deer early in the fall, and through their committee negotiated with the hatchery men for hatching-egg prices agreeable to both the producers and the hatchery men. With the increasing number of hatching-egg producers, it is felt, however, that some definite organization should be created whereby they may effectively control their business through adopting Rules and Regulations governing production and sale of hatching eggs to licensed Hatcheries. To this end a committee has been appointed with instructions to draft as early as possible in 1937 some definite proposal to submit to the next meeting of the hatchery men and producers.

There is no doubt that poultry raising has saved the situation during the past few years for many farmers in the drought area and in Districts where good crops were obtained, as well. Many farmers report that if it had not been for their flocks of poultry, which provided them with a weekly pay cheque, they would not have been able to remain on their farms. It has been the policy of the Provincial Poultry Branch to encourage the raising of poultry to this end, rather than large commercial poultry plants. It is felt that two or three hundred well bred hens on a farm will provide a living for the farmer and his family, and, if crops are a failure, he can still continue to carry on at a profit even if he has to buy feed. This objective will be more easily achieved if a solution can be found for the unsatisfactory egg market situation.

POULTRY PROMOTION POLICIES.

For several years the Poultry Branch has had five major poultry promotion plans. These are all in operation at the present time, and are as follows:—

1. Alberta Accredited Flocks.
2. Alberta Winter Tested Flocks.
3. Turkey Improvement Plan.
4. Flock Approval and Blood Testing of Poultry for Pullorum Disease.
5. Approval of Males.

Of these, the major project in the advancement of poultry raising is the Flock Approval and Blood Test Policy, whereby all flocks supplying eggs to Commercial Hatcheries require to have the birds approved and blood tested before they are eligible to sell eggs. This also works in conjunction with the Dominion Hatchery Regulations, under which all Hatcheries in the Province are licensed and are required to live up to a given high standard. For the season of 1936-37 there are approximately 120,000 birds approved under this policy. Under this arrangement the farmers are required to pay 3½ cents per bird, the Department absorbing the balance of the cost of the service. A great increase is apparent in the number of R.O.P. males being used to head flocks. This is in line with the recommended policy for the Province.

TURKEY IMPROVEMENT POLICY.

The inspection and banding of turkey breeding stock for the members of the Alberta Bronze Turkey Breeders' Association shows a total of 650 birds thus made available for breeding purposes. The quality of the birds this year is remarkably good, more particularly with respect to meat type. For the coming year it is proposed to extend the turkey banding service to other varieties of turkeys than the Bronze. Alberta turkeys have again shown their superiority by outstanding wins at Toronto.

THE POULTRY FARM.

At the Poultry Farm, Oliver, operated by the Provincial Department of Agriculture, the usual number of birds are maintained, and the surplus breeding stock has been distributed throughout the Province at a reasonable price,—high-class cockerels being made available until the end of September at \$1.50 each, and turkey breeding stock in line with the prices established by the Turkey Breeders' Association.

Experiments in the fattening of turkeys have been carried out, and, while it would make this Report too extensive to deal in detail with these experiments, it was shown quite conclusively that where birds were fed 4 or 5 times a day for 6 weeks before killing, the gains made were much greater than where birds were permitted access to hoppers at all times.

Experiments in poultry house ventilation are being carried on now, and, while at this time, in the middle of the winter, it is too early to arrive at any conclusions, it is hoped that some valuable information may be obtained before the spring.

ROYAL SHOW, TORONTO.

The Province of Alberta annually sends a comprehensive exhibit of poultry to the Royal Show at Toronto. This year, with an exhibit of 60 birds, the following prizes were obtained:—17 Firsts, 11 Seconds, 3 Thirds, 9 other prizes, 1 Grand Championship, and 1 Championship,—a total of 42 prizes in all. The breeders exhibiting this year were:—

Poultry.—D. G. Henderson; Thomas Hopkins; C. W. Hurst; Earl Nopp; James Smith; N. S. Thompson & Son; W. H. Van Wyck; F. S. Wetherall; J. E. Wilkinson; Gilbert Young.

Turkeys.—Mrs. John Bird; Mrs. C. J. Hall; Miss Josie Macdonald; Manuel Brothers; Mrs. O. Mickelson; Miss Elsie Richards; Gilbert Young; Alberta Department of Agriculture.

Mr. I. C. Cunningham, a member of the staff of the Poultry Branch, who accompanied the exhibit to Toronto, is deserving of commendation for the splendid manner in which he took care of the exhibit, and looked after the health of the birds during the entire trip.

ORGANIZATIONS.

The major poultry organization in the Province, and one which represents all poultry groups in the Province, is the Alberta Poultry Federation, the Board of Directors of which is constituted from one member from each affiliated Association, and which forms the Poultry Council. The Poultry Council is recognized as being the official voice of the poultry industry in Alberta, and is doing much to assist poultry breeders in an organization way. The Poultry Branch appreciates the splendid co-operation it receives from the Federation, and commends the work of the two main officials,—the President, Mr. C. J. Ford, and the Secretary, Mr. R. S. Johnson.

DEPARTMENT OF AGRICULTURE

REPORT OF THE PROVINCIAL APIARIST.

(S. O. HILLERUD.)

The season of 1936 was outstandingly favourable from the standpoint of production in the greater part of the Province.

The total honey crop is estimated at 1,850,000 pounds, valued at \$150,000, as compared with 1,100,000 pounds, valued at \$99,000, for 1935. A definite tendency towards increasing the production of comb honey and cut comb honey is revealed, particularly in the central section of the Province. Approximately 12,189 pounds of comb honey and cut comb were produced in 1936, which found a ready market in Edmonton, Calgary, and Lethbridge.

There is a marked tendency towards increase in the size of apiaries and a decrease in the number of small-scale bee-keepers, particularly in the older commercial areas. Evidently apiaries of less than five colonies are not satisfactory commercial units. The number of bee-keepers in the Province remains about the same however, for, although 127 new bee-keepers reported, or were contacted during 1936, 90 bee-keepers dropped out. Most of the new bee-keepers are established in central and northern Alberta.

MARKETS.

The 1936 prices remain the same as last year:—\$5.20 per case of 10's; \$5.50 per case of 5's; and \$5.80 per case of 2½'s (60 pounds to the case). Reports would indicate that most commercial bee-keepers obtained this price, but the market is described as slow throughout the entire season, and supplies were always liberal. Considerable confusion exists in the glass market, and there is a noticeable lack of uniformity in the prices asked by different bee-keepers who prepared honey in glass. Comb honey moved readily at 25 cents per section.

PACKAGE BEES.

Very few complaints were brought to our notice regarding package bees. Apparently the efforts of the Alberta Bee-keepers' Association have borne fruit with the transport companies. Supersedure was comparatively rare. In most cases commercial men report less than 2 per cent. The worst case of supersedure was approximately 8 per cent. This last case was evidently due to unavoidable exposure to over-heating while bees were in transit.

EXPERIMENTAL WORK.

A co-operative experiment with the Alberta Bee-keepers' Association, California Package Bee Shippers, the University of California, and the Department of Agriculture, was carried on in a trial yard composed of 60 colonies, at Coaldale, for the purpose of determining, if possible, the causes of supersedure, and isolating outstanding strains. This work was further augmented by work carried out under the care and supervision of Mr. D. A. Andrew, in the Provincial Apiary, at Vermilion, and by observations made by members of the Calgary Bee-keepers' Association. The Provincial Apiarist, in addition, carried on observations in various

other yards at Taber, Coaldale, and Brooks. It is planned to carry on this work during 1937 and 1938, at which time a joint report will be issued.

School of Agriculture, Vermilion.—The Experimental Apiary at Vermilion carried on a series of studies with queens sent by the University of California (the report of which is attached). The total honey produced by the yard is not yet available. It is estimated, however, that the value is approximately \$50.

School of Agriculture, Olds.—Two colonies were kept at the School of Agriculture, Olds, chiefly for demonstration purposes.

PLANT POISONING.

Early in the season the loss of adult bees through plant poisoning was reported as more serious than in previous years, but possibly the bee-keepers were more observant. Outbreaks were reported in Brooks, Taber, Coaldale, and Lethbridge. Fortunately, they proved of short duration, and most of the colonies obtained a satisfactory surplus. Samples of affected bees and the suspected plant were sent to the Department of Botany, the Bacteriological Laboratory, and the Provincial Laboratory. Many affected colonies were studied for symptoms and possible abnormalities. Plans for the continuance of this work during the coming season have been made.

DISEASE.

There were two new outbreaks of disease during the season,—one at Rockyford, and a very serious one at Patricia. There is great need for more frequent inspection.

Inspector.	Apiaries Visited.	Colonies Inspected.	Colonies with A.F.B.
C. E. Yauch.....	85	234	11
D. Chalmers	197	893	41
S. O. Hillerud.....	95	1,652	128
Total	<u>377</u>	<u>2,779</u>	<u>180</u>

The unfavourable weather conditions at the time of inspection, and the very heavy sustained flow, seriously curtailed inspection in the southern areas during 1936.

WINTERING.

The cost of wintering bees is so high that most bee-keepers prefer using cyanogas, and re-stocking their apiaries with package bees in the spring. Three hundred and ninety-seven bee-keepers indicated on a questionnaire that they killed 7,520 colonies, and prepared 1,117 colonies for the winter of 1936-37. During the winter of 1935-36, 2,481 colonies were placed in winter quarters, and 1,122 died during the winter.

EXTENSION WORK.

Owing to the demands made on the vote by experimental work and increased inspection, it is impossible to carry on the usual amount of extension work. Meetings were held at the following points:—

Three Meetings, Calgary; total attendance, 87;
Lethbridge; attendance, 17;

Alliance; attendance, 31;
 Donnelly (this meeting was held in conjunction with Mr. Tremblay's
 Field Day); attendance, 40;
 Dreau; attendance, 17;
 Beaverlodge; attendance, 8;
 making a grand total attendance of 200.

A series of Lectures were given at the Vermilion School of Agriculture during January. Approximately 250 Bulletins were sent out during the season.

BEE-KEEPERS' CONVENTION.

The Annual Bee-keepers' Convention was held in the Hudson's Bay Store in Edmonton on October 22nd and 23rd, with a total attendance of approximately 150, and an average attendance per meeting of 75. Speakers from the Department of Agriculture and the University of Alberta, together with prominent bee-keepers, provided a well balanced and instructive programme.

HONEY SHOW.

The Honey Show was outstanding in the number of entries and the care taken to prepare honey (18 entries). However, no sample was of sufficient merit to justify its entry into one of the more important shows of the East or England. While it was felt the Show had distinct possibilities, there was not sufficient time to make a study of the exhibits. For this reason it is planned to have a talk on the preparation of honey, with samples illustrating the various points. The winners of the exhibit were as follows:—

W. H. Coghill, Edmonton.
 R. M. Gourlay, Leduc.
 T. O. Hird, Edmonton.
 L. N. Gregory, Rossington.

HONEY PRODUCTION.

The following statistics give certain information relative to honey production in Alberta:—

AVERAGE PER COLONY REPORTED, AND ESTIMATED PRODUCTION BY CENSUS DISTRICTS.

Census Division.	Colonies of Reporters.	Production (Pounds).	Colonies of Non-reporters.	Production (Pounds).	Total of Colonies Known to Be Operating.
1.....	737	146,286	33	6,534	770
2.....	3,019	502,327	1,569	260,454	4,588
3.....	2,896	469,824	869	139,909	3,765
4.....	46	3,021	110	7,260	156
5.....	2	70	.....	.....	2
6.....	316	34,810	148	16,280	464
7.....	84	5,338	51	3,213	135
8.....	229	23,293	18	1,836	247
9.....	58	5,250	18	1,620	76
10.....	76	7,554	87	8,613	163
11.....	703	87,702	105	13,125	808
12.....	67	7,590	7	791	74
13.....	7	1,315	30	5,640	37
14.....	358	41,113	230	26,450	588
15.....	11	1,162	6	636	17
16.....	28	1,320	8	632	36
Totals.....	8,637	1,337,975 lbs.	3,271	492,993	11,926

Total Estimated Yield.....1,830,968 pounds.
 Provincial Average per colony.....155 pounds.

PRODUCTION AND WINTERING STATISTICS FOR 1936.

Census Division.	Average per Colony (Pounds).	Estimated Production of Colonies Known to Be Operating (Pounds).	Colonies Destroyed.	Colonies Prepared for Winter.
1.....	198	152,920	707	30
2.....	166	762,781	2,784	235
3.....	161	609,733	2,874	22
4.....	66	10,281	42	4
5.....	35	70	2	.....
6.....	110	51,090	255	61
7.....	63	8,551	75	9
8.....	102	25,129	52	177
9.....	90	6,870	38	20
10.....	99	16,167	42	34
11.....	125	100,827	366	337
12.....	112	8,381	67	.....
13.....	188	6,955	7	.....
14.....	115	67,563	175	183
15.....	106	1,798	11	.....
16.....	79	1,952	23	5
Total		1,830,968 lbs.	7,520	1,117

HONEY PRODUCTION, 1936.

Census Division.	Bee-keepers.	Colonies.	Average Pounds Per Colony.	Production (Pounds).
1.....	15	773	198	153,000
2.....	280	4,596	166	763,000
3.....	75	3,789	161	610,000
4.....	40	288	66	19,000
5.....	3	2	35	70
6.....	122	473	110	52,000
7.....	60	143	63	9,000
8.....	72	245	102	25,000
9.....	20	78	90	7,000
10.....	70	172	99	17,000
11.....	260	833	125	104,100
12.....	14	75	112	8,400
13.....	25	37	188	7,000
14.....	60	587	115	67,530
15.....	16	18	106	1,900
16.....	15	76	79	6,000
Total.....	1,147	12,185	152	1,850,000 lbs.
17.....	1,147	12,185	152	1,850,000 lbs.

REPORT OF THE DIRECTOR OF JUNIOR WORK.

(S. H. GANDIER.)

BOYS' AND GIRLS' CLUBS.

Since the Department is dependent upon the District Agriculturists for the major portion of the organization and supervision of Clubs, the time that these men can give to this Junior Work is the greatest limiting factor in determining the number of Clubs that can be carried in the Province. Because of the reduction in the District Agriculturist staff in 1935, the number of Clubs that it was possible to maintain in a flourishing and healthy condition during 1936 was somewhat reduced. Clubs in the south were greatly handicapped by the unusually severe drought conditions. This applies particularly to a number of the Grain Clubs, but only one or two were forced to abandon their annual Achievement Day. Inquiries are continually being received with respect to the formation of new Clubs, but these may be encouraged at present only where it is possible for fieldmen to give them some considerable attention. Much valuable assistance was again given this year by officers and fieldmen of the Federal Department of Agriculture at points where our own men are not able to give sufficient of their time to the work. This help is greatly appreciated. We would also acknowledge the very valuable service of all Club leaders in the Province who have given generously of their time and efforts in the interests of the boys and girls in their communities.

JUNIOR LIVE STOCK CLUBS.

The number of active Live Stock Clubs for 1936 is 58, as compared with 66 in 1935. There were 43 Swine Clubs, 11 Beef-feeding Clubs, and 4 Dairy-calf Clubs, with a total membership of 1,083. These Clubs are located as follows:—

Swine Clubs.—Lethbridge, Taber, Fishburn, Cardston, Swalwell, Loyalty, Huxley, Scales Junior (Erskine), Whetsel and Union (Erskine), Stettler, Gadsby, Red Willow, Science Mound (Donalda), Castor, Fleet, Coronation, Silver Heights, Fenn, Lacombe, Rimbey, Dickson, Hay Lakes, Duhamel, Liberty (Leduc), Barrhead, Neerlandia, Westlock, Jarvie, Athabasca-Colinton, Willingdon, Myrnam, Northern Valley, Wahstao, Derwent, Wasel, Marwayne, Dina-McLaughlin, Radway, Spedden, Ashmont, Wembley, Beaver Lodge, Spirit River, Berwyn.

Junior Beef-feeding Clubs.—Lethbridge District, Crossfield, Simons Valley (R.R. No. 4, Calgary), Olds, Grainger, Scollard, Red Deer, Lacombe, Northern Valley, East Edmonton, West Edmonton.

Junior Dairy-calf Clubs.—Lethbridge District, Didsbury, Olds, Westmount (Millet).

The majority of the Stock Clubs report an active and prosperous season. The Beef-feeding Clubs at Lethbridge, Lacombe, Grainger, and Edmonton, had exceptionally good Fairs and Auction Sales, prices for the first animals going as high as 40 cents per pound. A number of the larger buyers and retail meat merchants support the Beef Club work by purchasing the calves at these Sales.

Elimination Contests in Stock Judging for teams representing the individual Clubs were held at Lethbridge, Lacombe, and Edmonton, in October, the Finals being held in Edmonton on October 29th. Provincial Champions were declared as follows:—Swine Judging Championship won by the Liberty Swine Club, of Conjuring Creek, represented by twin sisters, Lillias and Ethel Ferguson. Beef Judging Championship won by Red Deer Club, represented by Charles Eversole and Robert Cruickshank. No Contest was held in Dairy Cattle Judging this year because of the very small number of Dairy-calf Clubs.

JUNIOR GRAIN CLUBS.

The number of Junior Grain Clubs was reduced to 92, as compared with 130 in 1935, in order that more satisfactory supervision might be given. Projects carried were as follows:—Wheat, 53; Oats, 22; Barley, 13; Flax, 2; Potatoes, 1; Corn, 1. Total Grain Club membership was 1,576.

On account of the early fall frosts of the previous season, it was necessary to distribute more new seed to Club members than usual, 5,427 bushels being supplied. The cost of this seed, over and above membership fees, was contributed by the Companies sponsoring the Clubs. The sponsors also provided the expenses of free trips for Club proficiency winners to the Short Courses held at the Seed Fairs. We gratefully acknowledge the co-operation of the following Companies in the Grain Club work:—sponsors of Wheat Clubs, the Alberta Wheat Pool; for Oat Clubs, the United Grain Growers; for Barley Clubs, the Canada Malting Company; and for Flax Clubs, the Alberta Linseed Oil Company.

The Grain Judging team representing the Stettler Club, Ben Redfern and Alton Bishop, won the Provincial Judging Championship.

Supervision of the Grain Clubs comes largely under the direction of the Field Crops Branch, and further details of Grain Club work will be found in the Report of the Field Crops Commissioner.

NATIONAL JUDGING COMPETITIONS.

Our Provincial Champion teams in Swine Judging, Beef Cattle Judging, and Seed Grain Judging, represented the Province in the Junior Judging Competitions at the Toronto Royal Show in November, and made a very reasonable showing. The Dominion Championship in Swine Judging was won by the Ferguson sisters, of Conjuring Creek; the Seed Judging team stood third in competition with the other Provinces; and the Beef Judging team, seventh. A competitor was also entered in the special Public Speaking Contest, which was an added feature at the Royal this year. The Province was represented in this contest by Oliver Weyman, of the Cardston Grain Club. The contest was won by the Quebec representative, and the competitive standing of entries from the other Provinces was not reported.

Club Bulletin.—Three issues of The Alberta Club Bulletin were published during the year,—February, June, and September. These supplied general Club news of interest to Club members, as well as special articles for their instruction.

Radio Addresses.—A bi-weekly series of radio talks over the University Radio Station and its associated network, for the benefit of Club members, was continued through the winter and fall seasons. These talks appear to

assist in sustaining Club interest during that part of the year when the Clubs are less active. The addresses were given alternately on Live Stock and Grain Club Work by the Director and officers of the Field Crops Branch.

SCHOOL FAIRS.

School Fair activities have continued to make very definite progress during the past season. There were 89 active Fair centres, as compared with 72 in 1935. The Fairs, on the whole, were of a higher standard, and local interest and enthusiasm now seems to be increasing from year to year. Drought conditions in the south interfered with work to some extent, but only one Fair failed to materialize because of the extremely dry season. A number of new centres are now in process of formation, and it is expected that total Fairs for 1937 will be well over the 100 mark, provided we are able to continue with the supervision that was available during this season.

The Province is divided into two Districts for School Fair work. The Northern District is under the supervision of the Vermilion School of Agriculture; and the Southern District under the Olds School of Agriculture. Certain members of the staffs are appointed to act as organizers and supervisors through the summer season. Fortunately, the services of an extra supervisor were available throughout the spring and summer months in the large Southern District, which, we feel, is partly responsible at least for the better showing made at many Fairs this year. Garden seeds were again supplied by the Department to all centres, also Fair supplies, such as entry tags, prize cards, judges' books, etc.

Five judging circuits were organized,—three in the Southern District, and two in the Northern District,—judging staffs being drawn from the teaching staffs of the Schools of Agriculture, for vegetables, grain, and household economics classes; from the District Agriculturist staff for stock classes; and each rural School Inspector was responsible for classes in school work in his District. Fairs were held from September 1st to October 10th. Fortunately, weather conditions were very favourable for the entire period, and no cancellations became necessary because of bad weather and roads, as is often the case. At some of the southern Fairs exhibits in vegetables and grain suffered both in number and quality because of the unusually dry season, but in the centre and north these were of an even higher than usual standard. There was also a general improvement in the household economics exhibits. In the school work section some objection was registered by a number of centres to the new Rule for 1936, limiting entries in each class of school work to two from any one school, and it may be advisable to allow more latitude in this respect another year. Small classes in live stock continue to be the general rule, and, as was pointed out in the Report for 1935, this may largely be accounted for by the fact that the Department no longer provides special grants for the live stock classes. Each Fair Association is now responsible for the necessary prize money in all classes.

The Scholarship Short Course of one week at the two Schools of Agriculture was held as usual in July. Those eligible for this Course were the boy and girl of each School Fair who obtained the highest number of points for their exhibits in 1935. All expenses of the Course, including transportation and board, are met by the Department. At Olds, 96 were

in attendance, and at Vermilion, 60. The Vermilion registration includes 10 winners of 1934 from the Peace River District, who were prevented from attending in 1935 because of summer floods in the Slave Lake area. The special Scholarships toward expenses of a regular Course at the Schools of Agriculture, which are usually awarded at the close of this Short Course, were cancelled this year.

The School Fair work continues to be hampered by inadequate supplies of literature. A new Prize List was published January 1st, 1936, but does not contain detailed instructions for the preparation of exhibits, and there is now a heavy demand for a Hand-book similar to that published in 1930, which is now practically out of print. If the appropriation for School Fair purposes will permit, it is highly desirable that a new Bulletin shall be prepared in sufficient quantities for the 1937 season.

School Fair Associations were active at the following points in 1936:—

Southern Section.

Circuit No. 1.—Eckville, Leslieville, Innisfail, Thorsby, Valley View, Millet, Leduc, Wetaskiwin, Pendryl, Olds, Mountain View, Springwater, Craigmyle, Chinook, Oyen, Sedalia-Naco, Veteran, Castor, Stettler, Clive and Lacombe.

Circuit No. 2.—Twin Butte, Allerston, Coutts, Warner, Turner Valley, Forest Lawn, Red Deer Lake, De Winton, Standard, Langdon-Strathmore, Magrath, Spring Coulee, Raymond, Hartley, Cardston, Cowley, Gleichen and Duchess.

Circuit No. 3.—Cochrane, Caroline, Crossfield, Sundre, Red Deer, Park Lake (Nobleford), Iron Springs, Coaldale, Whitle-Winnifred, Purple Springs, Grassy Lake, Etzikom, Foremost, Manyberries and Barnwell.

Northern Section.

Circuit No. 1.—Clover Bar, Sturgeon, Ardrossan, Thorhild, Westlock, Boyle, Fultonvale, Camrose, Viking, Round Hill, Ministik Lake, Tofield, Tomahawk, Mayerthorpe and Sangudo.

Circuit No. 2.—Clandonald, Ashmont, Beaverdam, Greenlawn, Vermilion, Marwayne, Kitscoty, Lakefield, Sedgewick, Wavy Lake, Treaty Hill, Amisk, Cadogan and Islay.

Peace River District Fairs.—Grande Prairie, Valhalla, Sexsmith, Blue Hawk, Donnelly and Kinuso.

REPORT ON FARMERS' FIELD DAYS AND SHORT COURSES.

(S. H. GANDIER, *Director.*)

A policy of co-operation including the Provincial and Federal Departments of Agriculture, the Faculty of Agriculture of the University, the Soldier Settlement Board of Canada, several of the leading Grain Companies, Canada Malting Company, Seed Growers' Associations, and Stock Breeders' Associations, has continued to operate during the past year in the conduction of both Field Days and Short Courses within the Province. All proposed events of this nature are now reported to the Provincial Director, who has charge of the complete schedule, in order that overlapping of services and conflict of dates might be avoided. This plan appears to be working out very satisfactorily for all concerned.

FIELD DAYS.

Through the summer months 27 Field Days were conducted under this Department's direction at private and Government Farms. These were arranged largely through the District Agriculturists at the requests of various farmers' organizations and at points where the work could be given with particular advantage to the community. Topics of discussion were selected, keeping in mind the type of agriculture best suited to the various Districts and those special problems that our farmers have to face as a result of present economic and agricultural conditions. Demonstrations and Lectures were largely confined to crop production and stock raising, with some attention in certain Districts to poultry raising and other specialties. The attendance at such points was somewhat disappointing because of the unusually severe drought conditions, but in central and northern Districts the farmers turned out in large numbers, and showed a very keen interest. A series of seven Field Days in the Peace River District late in July and early in August was particularly well attended.

In addition to the Field Days above mentioned, the Provincial Department of Agriculture assisted at many of the Field Days conducted by the Federal Department at its Illustration Stations in Alberta, and co-operated with a number of the Grain Companies in their plot experiments at nine strategic points to which the public was invited for inspection of results of the summer's work.

SHORT COURSES.

Following the policy of former years, Short Courses with one or two days' programme were held at selected points during the winter. The majority of these were arranged upon the recommendation of the District Agriculturist, being a part of their regular campaign for the betterment of agricultural practices in their Districts. Others were planned in conjunction with the District Seed Fairs. At most points they were sponsored jointly by this Department and organizations such as Boards of Trade, Service Clubs, etc.

During 1936, 22 Short Courses were held throughout the Province, from the extreme south to Grande Prairie in the north. Capable lecturers from the Department's staff, the Faculty of Agriculture at the University,

and the Federal Department of Agriculture were secured to give the instruction. Programmes included instruction and discussion of agricultural topics of local interest, including grain growing, stock raising, animal diseases, forage crops, weed and insect control, culture of fruits and vegetables, poultry raising, markets, drought area problems, etc. A series of bacon hog demonstrations was held in the area north and east of Edmonton with the express object of improving the type of hogs raised throughout that District. Attendance at all Short Courses was very satisfactory with the exception of those that were held in very severe weather during February, when several postponements and cancellations were necessary. The Courses were exceptionally well received at some of the large centres such as Calgary, Red Deer, and Grande Prairie.

The Department acknowledges the very valuable assistance rendered by the staff of the University and officers of the Federal Department of Agriculture, without whose help these services could not have been given.

REPORT OF THE ALBERTA WOMEN'S BUREAU.

(S. H. GANDIER.)

In December, 1935, the position of Director of the Alberta Women's Bureau was dispensed with, and the limited activities of the Bureau during the past year have been confined entirely to a programme of Lecture-demonstrations through the summer months. These have been given at country points upon receipt of applications from women's organizations such as Women's Institutes, Social Credit Groups, United Farm Women of Alberta, etc.

Three Household Economics teachers of the Schools of Agriculture were engaged in this work through the months of June and August, the demonstrator in sewing continuing with the Meetings through September to the middle of October. In all, there were 124 Meetings and Demonstrations. Attendance and interest were exceptionally good, on the whole, and many enthusiastic reports were received following the Meetings. Instruction was given in various sewing and cooking projects, rug making, dry cleaning, home decoration, etc.

A number of applications for next season were received during the fall, which would indicate a heavy demand for these services again in 1937.

REPORT OF THE DISTRICT AGRICULTURISTS

CARDSTON DISTRICT.

(CHARLES O. ASPLUND.)

GENERAL CONDITIONS.

The opening months of 1936 were extremely severe, February setting an all time record for persistent low temperatures. This condition resulted in fairly heavy live stock losses and great demands for feed. April was very promising for moisture, but May was one of the driest months on record, and was characterized by extreme heat as well. The above condition was alleviated on June 6th by heavy general rains that gave promise of very satisfactory crops. Unfortunately, however, no rain of consequence fell during the succeeding crop periods, and very low yields resulted.

Another severe grasshopper outbreak occurred this year. The control measures were very effective, however, and crop loss was largely confined to late sown crops, especially oats and barley, which, as a result of the combination of drought and grasshoppers, were an almost total failure.

The above combination of circumstances has resulted in the need for a great amount of relief feed and seed for all but the irrigated portions of the District.

SEED AND FEED RELIEF.

It was necessary for this office to give a very considerable portion of its time to assistance in this work during the late winter and early spring.

We also undertook to continue the distribution of relief feed during the last two months, and up to December 31st approximately 275 applications had been taken and 70 car-loads of feed had been ordered.

PURCHASE OF LOW-GRADE CATTLE.

Shipping of Cattle Out to Feed, and Assistance in Locating Feeder Cattle for Outside Purchasers.

We assembled 42 car-loads of low-grade cattle containing 1,100 head. This work was all completed on December 15th.

We accepted applications and shipped out for winter feeding approximately 1,000 head of cattle.

We lent all the assistance possible in the location of feeder cattle for outside as well as local buyers.

RAM BONUS POLICY.

We purchased 12 head of rams at Calgary for distribution under the above policy.

ASSISTANCE IN SEED POLICY.

Under the Seed Exchange Policy we purchased and distributed approximately 500 bushels of Registered and Certified seed grain.

CLUBS.

Grain Clubs numbered 4, with a membership of 91.

Swine Clubs numbered 2, with a membership of 43.

The Cardston Grain and Swine Club teams were successful in winning the District Elimination, and competed for Provincial honours at Edmonton. A member of the Cardston Grain Club was successful in winning the right to compete in the Public Speaking Contest at Toronto.

This office assisted Mr. A. A. Campbell with the Lethbridge District Calf Club. Out of 22 members competing, 6 were from the Cardston District.

MEETINGS HELD.

A series of Short Course Meetings were held in March at Raymond, Cardston, and Hillspring. These were very well attended and highly appreciated by the farmers.

ADDITIONAL WORK.

I was asked by the Department to assist with the organization and conduct of the Junior Farmers' Camps at Calgary and Lethbridge. Both of these Camps were well attended, and we feel, were well worth while.

LIVE STOCK FEEDING.

The operations of 1935 were fairly satisfactory. Cattle feeders about broke even, while lamb feeders made a substantial profit.

The fall operations were considerably curtailed due to higher feed prices and the definite shortage of feed grain. A recent survey indicates the following numbers are on feed:—cattle, 3,117; lambs, 21,550. Good progress is being reported. Lambs are already moving to market, and cattle movements will begin shortly. It is anticipated that most of the cattle will go to United States markets.

SUGAR BEETS.

The year proved to be one of the most satisfactory as far as this crop is concerned. Dry weather and heat, if supplemented by sufficient irrigation water, results in high yield and high sugar content. Approximately 200,000 tons of beets were harvested off 19,500 acres, and these beets had a sugar content of 18.5 per cent. The net price to growers will be something over \$6 per ton.

GENERAL LIVE STOCK SITUATION.

The greatest liquidation of breeding stock that the District has experienced in years took place this autumn. This was inevitable, owing to two very unsatisfactory crop years in succession.

LETHBRIDGE DISTRICT.

(A. A. CAMPBELL.)

A more prolonged period of sub-zero weather prevailed through mid-winter of 1936 than is usual for this District, which caused live stock losses and the movement of large amounts of feed and relief seed into the District.

The Lethbridge District experienced a very dry season. The average precipitation was 2.99 inches less than a 34-year average of 15.73 inches. During the growing months of May, June, and July the total precipitation was 4.31 inches.

The estimated average yield of wheat was 6 bushels per acre; oats were an extremely light crop; and the barley and rye yields were practically negligible in the dry areas.

The supply of irrigation water to farmers on all irrigation projects was limited, with the result that only 50 per cent. of alfalfa fields and 60 per cent. of grain fields were irrigated. Consequently, the various yields were proportionately curtailed.

LIVE STOCK.

There was a substantial increase in the live stock handled in the Lethbridge Stock Yards during 1936, as compared with the previous year. The heaviest increase was in the number of horses handled in the local yards. The following Table shows the movement of all live stock, both in cars and by the head, during the past two years:—

Live stock received—

	1936.		1935.	
Horses	162 cars	2,950 head	59 cars	850 head
Cattle	490 cars	15,684 head	349 cars	9,867 head
Sheep	77 cars	14,631 head	72 cars	14,446 head
Hogs	391 cars	24,065 head	372 cars	21,640 head
Total	1,120 cars	57,330 head	852 cars	46,803 head

Live stock shipped—

	1936.		1935.	
Horses	194 cars	3,814 head	79 cars	1,227 head
Cattle	559 cars	17,332 head	401 cars	11,449 head
Sheep	112 cars	21,606 head	83 cars	17,388 head
Hogs	737 cars	61,745 head	661 cars	53,963 head
Total	1,602 cars	104,497 head	1,224 cars	84,007 head

Horses.—There are a number of good stallions in the District, Percherons predominating, and a moderate increase in the number of mares bred. A Horse Sale was held on March 3rd at the Exhibition Grounds. The top price realized was \$135, and the average price \$63 per head. The majority of horses offered lacked condition and size. All sellers were well satisfied with the prices obtained. Largely owing to the increased prices received for horses during the early part of the year, and scarcity of feed, a heavy conversion to tractors resulted. In the Foremost area very few farmers used horses for their farm work.

Cattle.—There is room for considerable improvement in the quality of both beef and dairy cattle. No doubt the movement of 1-cent-a-pound cattle will have a very beneficial effect in herd improvement. Owing to the low prices prevailing for dairy products, there has not been much incentive to increase the number of dairy cattle. Approximately 100,000 pounds of surplus milk per month is delivered to the City of Lethbridge.

The scarcity of feeds and higher feed values has been responsible for a heavy decrease in the numbers of beef cattle in feed lots. Information to hand would indicate that there are only 1,885 head of cattle in feed lots this winter.

Large amounts of beet pulp, beet tops, and roughage being available in the irrigated areas has acted as a big inducement to ranchers to ship cattle into these Districts for wintering. Approximately 7,500 head of cattle have been moved in for the winter months. Prices run from \$1 to \$1.25 per head per month to the farmer.

Sheep.—The sheep rancher fared much better than his neighbouring cattle rancher. A near normal lamb crop, in point of numbers, was obtained. Wool sales were on an 18-cent level, and feeder lamb sales ranged from \$4.75 to \$5 per hundredweight. These prices were an advance over the prices received the year previous. There was a heavy shipment of feeder lambs out of the District during the fall, the bulk of which went to eastern Canada. Range lambs averaged about 8 pounds less in weight this year than usual, on account of adverse range conditions. There is a 40 per cent. decrease in numbers of lambs in local feed lots, chiefly on account of higher prices for feeder lambs and feed, and the scarcity of feed.

Swine.—There has been a 19 per cent. increase in the number of hogs graded at the local yards. It is safe to assume there is a definite trend to improvement in the quality of hogs, although this may not show up on grading sheets on account of the heavy run of feeder hogs, which was 50 per cent. higher than that of the previous year. Many of the feeder hogs were of good type, but, owing to scarcity of feed, were sold as feeders. There has been a better demand than formerly for good Yorkshire boars, and no demand for boars of other breeds. It is estimated that numbers of hogs on farms are down 10 per cent.

Poultry.—The poultry industry is in a healthy condition. The demand for baby chicks was greater than it has been for years. Owing to many late hatched chicks, there are a considerable number of pullets which are only approaching full production at the end of December.

There was an estimated increase of 30 per cent. in the number of turkeys marketed. Dealers are unanimous in stating the quality of turkeys was better than in 1935. The low prices received were disappointing to many of the turkey raisers.

Geese and ducks were fewer in numbers.

FIELD CROP IMPROVEMENT.

Soils.—Strip farming with trash cover is practiced extensively throughout this District, and very little soil drifting occurred during the year.

Fertilizers are used by practically all sugar beet growers, and much consideration is given to rotations which include a leguminous crop. More importance should be paid to crop rotations, cultural methods, and trap crops, in an effort to combat insect pest damage.

Cereal Crops.—Keen interest was shown by growers last spring in acquiring better quality seed grain. All local grown Registered seed grain was absorbed in the District, and some small quantities shipped in from outside points. The cereals most generally grown are Marquis wheat, Banner and Victory oats, and Trebi barley.

There is a small nucleus of good growers and expert showmen within the District.

Owing to adverse conditions, the winter wheat crop was very light, and the rye crop threshed practically none. The collection of seed drill survey samples would indicate that there is room for vast improvement in the quality of seed grain being used. In all probability, large amounts of badly shrunken wheat of low germination will be used for seed during the ensuing year.

FORAGE AND PASTURE CROPS.

Alfalfa is the main hay crop and a short crop this year. This hay in stack is in keen demand at \$12 per ton and upwards. In the Vauxhall area fully 90 per cent. of alfalfa stands over 1 year old were winter killed. There is room for much expansion in the alfalfa acreage. Sweet clover is grown extensively to fit in with the necessary rotation where sugar beets are grown. Irrigated pasture mixtures should be utilized to a greater extent. An increase in the value of dairy products would tend to an increase in tame grass pasture acreage. A few growers are making a success in growing crested wheat grass and creeping red fescue for seed. Alfalfa seed production is very light.

MISCELLANEOUS CROPS.

Sugar Beets.—The sugar beet crop was a boon to many operators, and more particularly during this season of light cereal crops. With the completion of the second Sugar Beet Factory in the Province, at Picture Butte, in the Lethbridge Northern Irrigation Project, an additional 5,000 acres were seeded to beets. The yield was increased 2 tons per acre over the previous year, and was of exceptionally high sugar content. Threatened labour troubles were successfully ironed out, and the growers seem satisfied with the new basis of payment, namely a 50-50 split on the sale price of sugar.

Fodder Corn.—Good yields of excellent quality and high germination fodder corn and sweet corn were obtained by a few growers. There will be a quantity of seed corn for sale. With higher prices now prevailing for corn and meat products, an increase in acreage may be expected.

Potatoes.—The estimated acreage of potatoes for the year was 5,200 acres, and the average yield per acre 4 tons of marketable potatoes. The equivalent of 250 car-lots have already been shipped either by train or truck.

Co-operation between the wholesalers and growers was again beneficial when the main crop came on the market. Due to orderly marketing, the price per ton was maintained at a minimum of \$20.

Peas and Beans.—Contract acreage of peas and beans is being grown by farmers for three different Companies.

The Grimm Alfalfa Seed Growers, Limited, of Brooks, had peas of the Thomas Laxton variety grown in the Vauxhall area. This is the first time this Company has operated south of the Bow River.

The O'Loane-Keily Company, of Vancouver, was operating in the vicinity of Lethbridge. This Company had very little increase in acreage over the previous year. Shortage of irrigation water resulted in light yields.

The Taber Canning Company, in the Barnwell and Taber area, had a large increase in acreage of specialized crops.

The contract price has been raised on some of these crops for the coming year, which will be of benefit to the growers.

WEEDS.

There is a place for a Weed Inspector in enforcing the destruction of noxious weeds. Some of the newer perennials are getting a foothold, such as Hoary Cress and Russian Knapweed. Downey Brome Grass is also spreading in certain areas.

INSECT PESTS.

Grasshoppers were very plentiful, and caused damage to cereal crops and range pastures. Over 800 tons of poison bait were supplied to farmers from the local Mixing Station. Some crops were damaged by the pale western cutworm south of Lethbridge. Owing to very early harvest, saw-fly damage was not severe.

SHORT COURSES AND FIELD DAYS.

An Agricultural Short Course Meeting was held at Vauxhall on March 6th. As roads were almost impassable, there were only 25 people in attendance.

Numerous Field Days and Meetings were arranged and attended throughout the year, such as the necessary Meetings for Junior Clubs, Park Boards, Poultry Men, Pea and Bean Growers, and Beet Growers. Successful Field Days were held in connection with Ranchers, Dairy Men, Potato and Beet Growers.

BOYS' AND GIRLS' CLUB WORK.

Junior Grain Clubs consisted of Clubs as follows:—

Lethbridge Barley Club.....	12 members.
Lethbridge Wheat Club.....	20 members.
Burdett Wheat Club.....	10 members.

Live Stock Clubs comprised:—

Lethbridge Beef Calf Feeding Club.....	21 members.
Lethbridge Dairy Calf Club.....	19 members.
Lethbridge Swine Club.....	23 members.
Taber Swine Club.....	15 members.

a total of 120 members.

BOYS' AND GIRLS' CAMP.

Twenty-two girls and 46 boys were registered at the Boys' and Girls' Camp held in conjunction with the Lethbridge Fair.

Instruction and Contests were held in judging dairy and beef cattle, swine, and grains.

A good programme of entertainment was also arranged. Much interest and appreciation was evidenced by these young people.

SCHOOL FAIRS.

I judged live stock and poultry at School Fairs at the following points:—Twin Butte, Warner, Park Lake, Iron Springs, Coaldale, Whitla, Winnifred, Hudson School, Grassy Lake, Etzikom, Foremost, Manyberries, and Barnwell.

There seems to be a general lack of interest in getting live stock out to the majority of School Fairs. A number of classes at the Coaldale Fair were well filled. One class had 22 entries. Special mention should be made regarding the well balanced live stock and poultry exhibits at the Hudson School Fair. I consider this due to the personnel of the organization in charge.

TREE PLANTING.

A number of farmers are making good progress in improving the appearance of their home surroundings by careful selection of planting of trees and shrubs.

Particularly good work continues to be done at Park Lake in the 15-acre Park at that point.

AGRICULTURAL RELIEF.

Owing to low yields and inferior quality of cereals, the relief requirements for seed and feed will be greater during the coming spring months.

BROOKS DISTRICT.

(M. L. FRENG.)

The winter of 1935-36 was considered one of the most severe winters on record for this District.

A heavy covering of crusted snow, coupled with extremely low temperatures, which continued from the latter part of October until late spring, resulted in considerable loss to the ranchers, of horses, cattle, and sheep.

The range breeding stock came through in a rather thin and weakened condition, and the increase, especially in lambs, was cut down considerably. But the live stock made a remarkably fast recovery, owing to the excellent growth of grass during April and May.

The spring work operations opened up under favourable surface moisture conditions, and the grain crops were very promising up to the middle of June. There was practically no rain throughout this territory from the first week in June until the latter part of August. This, coupled with extreme heat and hot winds, resulted in practically a total crop failure, outside of the irrigated crops. In spite of the adverse weather which prevailed, the yields obtained under irrigation were considerably above the average, and the quality of a high standard.

There has been many requests for individual assistance in connection with irrigation problems, reclaiming seepage lands with suitable grasses, rotations suited to various conditions, diseases of live stock, also specialized crops, the planning of home grounds, and tree plantations, etc.

We have assisted whenever possible in this connection, and I am pleased to say that there has been a remarkable progress towards developing permanent homes throughout this District in the past season.

A Canning Factory is being constructed at Brooks. This will open up markets for specialized crops, which can be produced in quantity and of the highest quality in this District.

The operation of the Horticultural Station and the Demonstration Farm is also under the supervision of this office. Mr. P. D. Hargrave was appointed Horticulturist, and he took up his duties during last May. Following is a brief Report of the Horticultural Station:—

PROVINCIAL HORTICULTURAL STATION.

The Horticultural Project, the breeding and propagating of hardy fruits for use in Alberta, has advanced markedly in the past few years. Evidence has shown that no progress is possible using tender materials, but only from hybrids between the hardy and tender varieties. As a result of this type of work at this Station, a number of selections were budded during the past summer, for introduction in the near future. Seed from selected stocks is being after-ripened for sowing next spring along with seed for the production of budding stock.

During the growing season seldom a day passes without visitors to the grounds. It is remarkable the enthusiasm expressed by many of them for this type of work. The greatest difficulty experienced by them at their own homes is, seemingly, the obtaining of suitable varieties on hardy stocks. On September 2nd the Station entertained the Alberta Nurserymen's Association. The whole programme was successful, and it is hoped that the event will be a frequent one.

During inclement weather a determined attempt is being made to label all known trees, and to gather together and record their past history. This work is important because of its future value in a breeding programme.

Climate.—The past year experienced extremes of every kind as the season advanced. The winter was long, and gave more than the average of snow and low temperatures. The spring was late, with an abundance of moisture and exceptionally hot days with hot, dry winds. This peculiar weather had its effect on fruit trees. It is remarkable, however, the lack of winter killing due to severe winter temperatures (recorded low, —47 degrees Fahrenheit). More damage was done, especially to apple and walnut trees, by the killing frost of May 12th, which was followed by a period of unseasonable heat from May 14th to May 30th, the average maximum being 93 degrees Fahrenheit.

This period of extremes had no effect on the plum blossom, the fruit having set very heavily. The apple blossom was less fortunate, for that which had escaped the frost had its pollen blazed by the heat and winds that followed.

The value of irrigation during the past summer, remarkable for its drought during July, was wonderfully displayed by the abundance of fruit and vigorous growth. The intense heat of July and August brought the

fruit to early maturity, but had a detrimental effect on a portion of the budded stock.

Due to the long, open fall, the orchards entered the winter well matured, and in a good state of tilth.

Planting and Shipping.—In an effort to improve the entrance to the grounds, a selection of ornamental shrubs and trees has been moved to a new location where they have been planted to show off their individual characteristics. Cultivation will be made easier, and the specimens will be of greater value to the visitor. Many other unsightly spots have been cleaned up. Some areas planted to permanent hay crops will cut down on the cultivation required until the land will be needed for selected fruit tree seedlings.

During the fall 11,000 plants were dug and healed in for disposal next spring. This group of plants contains both ornamentals and fruits.

The past shipping season was not a heavy one, about 1,600 plants being disposed of to institutions, nurseries, and individuals who make a practice of testing varieties.

Acquisitions.—In order to further the planting of shelter belts and windbreaks, about 1,200 trees, such as spruce, pine, ash, and elm, were obtained from the Forest Nursery Station at Oliver. These were planted in nursery rows for future use.

Each year new varieties for test and breeding work must be acquired if the Station is going to maintain itself as one of the leading Horticultural Projects on the prairies. During the past season a number of new apple, plum, cherry, strawberry, and raspberry varieties were planted, as well as some named varieties of evergreens.

Fruit Crop.—Outstanding this year for the first time was the production of apricots. There were not many, it is true, but their quality and practicability, after the intense cold of the previous winter, marks another milestone in horticultural attainment. Pears also gave for the first time a heavy crop. The yield of apples and crabapples was very light due to the frost and intense heat of early May, as mentioned under "Climate".

Nankin cherries were ripe on July 7th. The picking of crabapples and plums was well advanced before the end of August. During the picking season 15 tons of marketable fruit was handled. At no time was there any difficulty experienced in its disposal. Usually the demand could not be supplied. Of interest is the fact that we had a request for a car-load of plums from Winnipeg.

The return from the fruit sales amounted to \$637.60. When the actual acreage of bearing trees is considered, this means better than \$100 per acre return.

Sandcherries, elderberries, grapes, walnuts, butternuts, filberts, and dewberries are all worth mentioning, the yield and quality being better than average.

Pruning.—In the prairie north-west, where winter temperatures are the cause of winter injury, pruning is best done after the turn of the year • when severe weather has passed. In a fruit plantation as large as that at this Station, a policy of this type cannot be held. During the past winter

about 80 per cent. of the trees were pruned. This was done over the entire winter, with remarkably little damage being effected by the low temperatures.

This leaves a portion of the orchard to be pruned during the coming season before that pruned last year can be gone over again.

Budding Season.—Root grafted stock of the past winter was a complete failure. This stands a remarkable comparison to the success of the budded stock of the past and present season. Whips of last year's buds made an average growth of 4½ feet, some reaching 7 feet in height.

During the past season about 7,000 stocks were budded. Of the 3,500 apple buds, there were 98 per cent. of them caught. The catch of the plums was not as high, owing to the hot weather experienced during their budding season.

From the new supply thus obtained we will be able to renew a large portion of old plantings with home grown stock. We will also have a good portion for testing throughout the Province.

Conclusion.—From the foregoing it has been again displayed that this section of Alberta is a proven area of plum production; that irrigation, even in a year of more than average rainfall, is a necessity; that the demand for horticultural supplies is increasing as well as the knowledge about them; and, judging from the correspondence received, there is evidence of the fact that this Station is increasing in prominence.

The past season has been a most fruitful and interesting one. The plans for future experiments have been laid out and started. These plans, we hope, will lead to fresh and valuable information in the future.

Horticultural Shows.—The Calgary Horticultural Society again requested a fruit exhibit from this Station. We made up a very fine exhibit of about 100 varieties of fruit, which was commented upon by all visitors, and greatly appreciated by all. We also had a fruit display in connection with the Brooks Fair and Sports Day. We assisted the Rainier Horticultural Society in connection with their Show, and judged the exhibits this fall.

WEEDS.

While the weed situation is serious on many of the irrigated farms throughout this District, there is, however, a greater effort by many of the settlers to combat this menace by a more systematic crop rotation.

This office has co-operated with the Weed Inspectors as much as possible, and some work was also carried out in connection with chemicals to eradicate Russian Knapweed, Hoary Cress, and Leafy Spurge.

FIELD CROPS.

A number of grain drill seed samples of wheat and barley were collected for testing by the Crop Testing Plan, and a number of farmers also took advantage of securing Registered and Certified seed through the Seed Exchange Policy.

Co-operating with the Canada Malting Company, arrangements were made with a number of farmers to grow a quantity of malting barley under contract, which gave a very profitable return this season.

The Grimm Alfalfa Seed Plant again contracted with farmers to grow about 1,600 acres of canning and garden seed peas, which produced about 1,200,000 pounds of clean merchantable peas.

LIVE STOCK FEEDING.

During the 1936-37 feeding season, the Department of Agriculture is again furnishing a fieldman to assist the Brooks Live Stock Feeders. Mr. Price has been in the District since the end of October assisting in placing feeder lambs with the farmers and supervising feeding operations.

During the 1935-36 season the Brooks Live Stock Feeders marketed 8,800 fat lambs, and 10 car-loads of cattle. Lamb sales were spread out:—January, 1,652, at an average price of \$7.18; February, 1,860, at an average price of \$7.15; March, 2,330, at an average price of \$7.30; April, 2,240, at an average price of \$8.22; May, 725, at an average price of \$7.97.

One car-load of cattle sold in March netted \$4.40 per hundredweight; 2 car-loads sold in April netted \$5.20 per hundredweight; with the remaining loads being sold in May at \$3.50 to \$4 per hundredweight.

For the 1936-37 feeding season the Association has placed 4,600 lambs on a contract basis, and has purchased 2,000 for different feeders. The Eastern Irrigation District is feeding 5,000 lambs. Part of these will be marketed through the Association. There are 6,500 lambs in the Scandia and Rainier District that will be marketed through the Bow Slope Shipping Association.

When allowance is made for the lambs being fed by farmers who are not definitely connected with any Shipping Association, it is estimated that there will be 25,000 lambs fattened in the Eastern Irrigation District this winter.

Due to poor prices last spring for fat cattle, and to the high price of grain in the fall, very few cattle are being fed this winter.

Lamb marketing began in December, with the Bow Slope Shipping Association making its first shipments. The Brooks Live Stock Feeders will begin shipping in the middle of January, with most of the sales being made in February, March, and April. Mr. Price covers the Brooks, Basano, Gem, Millicent, and Patricia Districts, selecting finished lambs, and arranging shipments for the Association.

Inquiries and correspondence have been quite heavy during the year, and a large number of Bulletins and other literature have been distributed.

RED DEER DISTRICT.

(F. H. NEWCOMBE.)

The season of 1936 provided an almost opposite set of crop conditions to those experienced in 1935. Following a severe winter and heavy snow-fall, the spring was late, and seeding operations were not general until about the first week in May. No fall work had been done on the land, which necessitated a considerable amount of crop being seeded on stubble. The germination of seed generally was inclined to be weak, but, with the

abundance of moisture prevailing, the emergence of seed was rather better than might have been expected. In common with the Province generally, this District experienced a dry season, the precipitation records at Red Deer showing a total for the season of 14.36 inches, as compared with 22.57 inches for the same period of 1935.

Harvest, was early, no damage by frost was reported, and the crop was satisfactorily stored away by October 10th. Average yields for the District east of the Canadian Pacific Railway are estimated at:—wheat, 16 bushels; oats, 23 bushels; barley, 18 bushels. The area west of the Calgary-Edmonton line received somewhat heavier precipitation, and the average yields would probably be 5 to 10 bushels higher. The quality of the grain was uniformly high, most of the wheat falling into the first three statutory grades, while quite a large percentage of the barley was of malting quality. Yields of forage crops naturally were not large; alfalfa making somewhat over a ton first cutting, and in most cases the second crop was negligible or quite small. Stronger grain prices have prompted the marketing for cash of the majority of the crop, and no appreciable amount remains in the farmers' hands at the end of the year.

STATISTICS.

Car mileage, 18,000; farm visits, 800; office calls, 375; letters sent out, 725; circulars and bulletins, 300.

HORSES.

The Sales of commercial horses at Lacombe and Red Deer in the spring indicated a firm demand for good quality horses of 1,400 to 1,600 pounds weight. Accordingly, interest in the breeding of horses is stimulated, and there is a keen demand for stallions of good quality. In the Red Deer and Lacombe Districts, Clydesdales would appear to be the most popular, while in some of the outlying parts Percherons are in greater demand. Several good stallions are available in parts of this District, but there is an opening for several more in some of the other portions. In all, we know of seven stallions serving this territory under the Federal Clubbing Policy.

CATTLE.

The feeding of commercial cattle was a rather unprofitable business. Quite large numbers of these cattle were finished in feed lots in this District, and many of them were sold on a margin of only 25 cents per hundredweight over the purchase price. It is true that these cattle consumed large quantities of low grade grains and roughages which otherwise would have been almost unmarketable, but, even admitting this, it is doubtful if many of the feeders could show a profit. This result, coupled with the relative shortage of feed this fall, is responsible for the greatly reduced numbers of commercial cattle being finished this season. Those who are finishing cattle this year have purchased them to much better advantage, and, with stronger prices, a better season is indicated. A few cattle already have moved out at 6 cents.

One of the urgent cattle problems in this District is the promotion of a policy with a view to standardizing cattle types and the removal of dairy bred steers from competition with good beef cattle.

DAIRYING.

Always an important part of agriculture in this District, dairying has received some stimulus through the erection of the Milk Condensing Plant at Red Deer. This Plant, built by the Alix Cream Pool, began the processing of milk early in October. The price of 30 cents per pound butter fat paid by this Factory will no doubt induce the milking of more cows, while possibly affecting swine production slightly, since under this arrangement the skim milk is removed from the farm. Quite large numbers of cows of marginal or definitely inferior quality are still being milked, and there is room for some effort and leadership in this connection.

SHEEP.

The past season has seen practically no change in the status of sheep breeding. Small farm flocks are common. There is, however, a definite increase in the winter finishing of commercial sheep and lambs. Seedings of rape for fall sheep pastures were rather unsatisfactory this year owing to lack of moisture, but this was in part compensated for by the long stubble pasturage afforded by the open weather.

SWINE.

Swine production has taken rather a severe blow from prevailing grain prices, and there is no doubt that sow breedings will be reduced this fall. Some breeding sows have been marketed. In the main, however, swine raising will continue to be an important part of farm revenue. The general type of pigs in this area being reasonably good, our efforts have been principally directed towards some improvement in feeding and management, where a great need exists. This being individual effort, nothing very definite can be reported, but some progress has been made. There is a growing recognition of the need for better housing, particularly of farrowing sows. There is definite need of piggery plans to be made available for distributors, and we hope that something may be done along this line during the coming year.

POULTRY.

Poultry in this District shares with dairying the responsibility of providing week to week revenue for immediate needs, and during the past season the general conditions in this District have been reasonably satisfactory. Interest in poultry raising is definitely on the increase, and scarcely a week passes that does not provide opportunity for this office to give some assistance. At the end of the year blood-tests of upwards of 3,000 birds in immediate Red Deer District have been made, and producers are looking forward to a satisfactory hatching season. Turkey breeders experienced a reasonably good season, with prices slightly under those of last year.

SOILS.

As reported last year, soils in this District vary from heavy black loam in the river valley to definitely leached soils on many of the higher areas, especially in the west part. As opportunity presents, we are endeavouring to give information particularly on cultural and crop methods in the gray areas.

CEREALS.

Believing that at least the western portion of this District is not particularly suited to wheat production, we are continuing our effort to interest farmers in the production of some other cereals. To this end we are assisting in the distribution of seed barley under contract from the Canada Malting Company. Twenty growers in the Benalto District took part in this project this season. Yields were satisfactory, grades were good, and there is a definitely increasing interest in this type of production in that area which is particularly suited to the production of malting barley.

Apart from this, our efforts have been directed along the lines of improving the quality and purity of seed used.

FORAGE CROPS.

As previously stated, yields of forage crops were not high this year. We think there is room for increased forage seed production in this District, and, as occasion permits, we are endeavouring to foster this phase of crop production. One farmer at Innisfail this year, on a 10-acre field, had a yield of 200 pounds per acre of red fescue, and on the same area the same man had a yield per acre of about 800 pounds of crested wheat grass. At prevailing prices, this is a profitable business.

WEEDS.

During the past season there has been a very evident awakening of interest in weed control. The Central Alberta Union of Municipal Districts has set out to make a definite drive in this connection, and, in conjunction with this office and the Field Crops Branch, we are hopeful that they may make much progress during the coming season. Their policy will probably be closely associated with forage production.

FIELD DAYS AND FARMERS' MEETINGS.

During February a Farmers' Short Course was held in Red Deer in co-operation with the Board of Trade. Average attendance was about 100, and interest was keen. A Dairy Cattle Field Day was held at Red Deer in co-operation with the Dairy Cattle Breeders' Association. There were many Field Days at Lacombe Experimental Station. A large number of farmers' Meetings were addressed, which undoubtedly provided some valuable contacts but whose value in actual results is quite problematical.

JUNIOR CLUBS.

Junior Swine Clubs were supervised at Rimbey, Lacombe, and Dickson; Grain Clubs at Rimbey, Leslieville, and Red Deer; and Beef Feeding Clubs at Red Deer and Lacombe. The Swine Clubs were rather better this year than previously, due in part to the cost records kept by the members. At Red Deer 20 calves were exhibited. At Lacombe 21 were shown, and 44 calves were sold by public auction at Lacombe following the Fair. The average weight of the calves was 795 pounds, and the average selling price \$8.15 per hundredweight. These two Clubs have been re-organized for the coming season, with a total of 53 calves. These are all of Hereford breeding, and nearly all steer calves. They were distributed to the members by

lottery, and all are being financed through the Bank of Montreal at La-combe. Payment for the calves will be a first charge on the proceeds of sale next spring. These calves were purchased from G. C. Dougan, of Airdrie, at \$15 per head.

Judging teams were trained in beef, swine, and grain, and the Red Deer beef team, composed of Charles Eversold and Robert Cruickshank, were successful in winning the Provincial Championship. They stood sixth in the Dominion Competition at Toronto.

The Junior Grain Clubs had moderate success, though we must admit we are not quite satisfied with the percentage of good results. The difficulty of securing keenly interested local leaders is quite an obstacle to the greatest achievement in these Clubs.

A Farm Camp at Red Deer Exhibition was a successful feature of the Fair and of our season's work. Sixty boys were enrolled.

We are pleased to report the continued patronage of an increased number of farmers in the territory we endeavour to serve. The requests for service and information cover the entire spectrum of agricultural production, and, indeed, also of marketing, and our greatest problem is to efficiently serve the large territory allotted to us.

STETTLER DISTRICT.

(B. J. WHITBREAD.)

The writer was appointed to this office on January 1st, 1936, the work previously being carried on by Mr. W. D. Gentleman. The first work undertaken was the organization of Short Courses, but, due to extremely cold weather and bad roads, only two Courses were held. The farmers who attended were interested in the subjects discussed, and expressed appreciation to the Government for assistance given to them.

HORSES.

Throughout the Settler District there is considerable open land which provides grazing for all kinds of stock. Horses do exceptionally well, and, owing to the ready market, farmers are becoming more interested in breeding this class of stock. Stallion Clubs are being formed, and under this plan four horses were placed last spring, namely, two Percherons and two Clydesdales.

CATTLE.

Owing to the shortage of feed and the low price obtained for finished cattle last spring, practically no cattle were put in the feed lots in the fall. The Government policy of paying one cent per pound and the farmers shipping low grade cattle to the Packing Plants has had a beneficial effect, and farmers are more appreciative of good stock. Farmers are becoming interested in the Federal Bull Loaning Policy, and several new Clubs will be organized next spring.

The dairy strain of the Shorthorn breed is more popular in this District than some of the other breeds, since many of the farmers desire to keep a

number of milking cows, and to ship cream. There are too many scrub bulls to be found, which is interfering seriously with the quality of the cattle.

JUNIOR CLUBS.

One Beef Calf Club was organized, and in the month of June a Fair was held, with 19 calves showing. These calves were sold at satisfactory prices, and it is anticipated there will be requests for more Clubs in the near future.

SWINE.

The raising of a better class of hog has been apparent the last couple of years. Girls' and Boys' Swine Clubs have been largely responsible for this, and during the past year 8 Clubs have been organized, with a total membership of 144.

SHEEP.

The raising of sheep forms a large part of the farm economy in the open areas and abandoned land in the southern and eastern parts of the District. Some large bands can be found here, with some smaller flocks in the more thickly settled parts. Suffolk and Hampshire rams are used extensively for breeding purposes. The production of lambs is the chief aim of the breeders, rather than production of wool. There are also a few pure-bred flocks to be found in this District.

POULTRY.

Poultry raising is a popular source of revenue, and the more careful poultrymen are taking advantage of the premium prices paid by the Hatchery, and a great many of them are having their flocks culled and blood-tested. About 5,000 birds in this District have been blood-tested, and the eggs from these birds will be eligible for shipping to the Hatcheries in the spring of 1937. The principal breeds are Barred Rocks, Leghorns, and Rhode Island Reds. Turkey raising is also popular, as this District is well adapted to the industry.

CROPS.

Farmers are still hopeful of harvesting large crops and becoming prosperous through grain raising. Wheat growing still occupies the main part of farming operations. More interest has been taken in growing better varieties, and through the Field Crops Branch a car-load of Certified red bobs seed wheat was distributed over two Municipalities last spring. Owing to the very dry years, oats and barley is not grown to any great extent.

FORAGE CROPS.

The growing of forage crops is being introduced, and, with some of the new drought resistant varieties coming into prominence, it is felt these crops will receive more consideration in future. The introduction of forage crops has been widely commenced by the Prairie Farm Rehabilitation Association in the eastern end of this area.

INSECTS.

Grasshoppers were a menace in the south-eastern part of the District. A vigorous poisoning campaign was put on which proved fairly successful,

but interest in poisoning waned as dry weather continued, and low crop yields became inevitable. Saw-fly does considerable harm every year, and the farmers are not fully acquainted with the methods of coping with this pest. Wireworm damage is also serious, but only over a limited area.

Farmers throughout the District are appreciating more and more the services of the District Agriculturist, this being evident by the number of calls made at the office and by their invitations out to the country to help solve their farming problems.

Exhibitors from this District were fairly successful at the Royal Winter Fair, Toronto. A team from the Stettler Grain Club won third place. In live stock, fourth prize was won on a senior yearling steer, and fourth prize on a Suffolk ram lamb. First and second prizes were taken for creamery butter, and sixth prize was won for hard spring wheat in the junior class.

CAMROSE DISTRICT.

(H. W. SCOTT.)

The District Agriculturist's office was removed from Sedgewick to Camrose in the early part of the year. The winter months of 1936 will be remembered for continued low temperatures and deep snow. The spring season opened later than usual, but heat and moisture conditions were favourable. Grass moved rapidly and grain germinated quickly, and everything pointed to a favourable crop, but the extreme heat in the latter part of May checked practically all growth, particularly from Hardisty east to the boundary, and in this District the season of 1936 is the driest on record. Wheat averaged barely 3 bushels to the acre, and oats and barley were a failure. West from Hardisty the precipitation gradually increased, and with it better crop yields was the result. West of the Calgary-Edmonton track crops were above the average.

HORSES.

Interest in horse breeding is maintained, and an increasing number of mares are bred. All the organized Horse Clubs under the Federal Government policies continued to function, and there were a number of groups of farmers in the District who purchased stallions under the Co-operative Purchasing Plan sponsored by the Provincial Department of Agriculture. Inquiries for information received at this office, respecting the method of procedure under this latter plan, indicate considerable interest in the organization of additional purchasing groups in the near future. Good horses are finding an outlet through auction sales and private purchase at profitable prices.

CATTLE.

The satisfactory financial returns from feeding market cattle during the winter of 1934-35 and surplus of frosted grain from the 1935 crop induced rather extensive feeding in the winter of 1935-36. Due to a surplus of finished cattle both in Canada and the United States, low prices were realized, which left little or no profit to feeders. Shortage of feed and the Federal policy of assisting in paying freight on cattle was responsible for a large number being shipped to the eastern provinces, so that a relatively small number of cattle are on feed this winter.

There are 21 Creameries in operation in this District, and some fine quality butter went on display at the Royal Winter Fair, Toronto. Butter from these Creameries won 9 first prizes, 37 seconds, and 8 thirds.

SWINE.

Market hogs are an important source of income in the black soil zone, where mixed farming is generally practiced. The general average of the two top grades marketed is considerably above that of the Province, and it is noteworthy that the percentage of top grades is relatively high in the hogs marketed at the time of year when the general market run is lightest. This indicates that those who are making a real study of bacon hog production are accomplishing their objective by adopting better feeding methods and by the selection of a better type for the market. The high price for malting barley and the light crops in some Districts will reduce to a certain extent the number of sows bred.

POULTRY.

Judging from the steady increase in interest and growth in number of poultry on farms, this side-line fits well into a more balanced type of farming. For the past few years when hail, frost, and drought have so reduced the farm income from wheat, the poultry flocks have furnished the necessary funds to meet the grocery bills, purchase clothing, and in many cases keep the farm machinery in repair. The native sod has satisfactorily solved the housing problems for an increasing number of poultry men in the District, and this type of house, holding from 300 to 700 birds, is quite common now in the Heisler and other Districts. There are many farmers here who take in from \$500 to \$1,500 a year from poultry.

FIELD CROPS.

Taking the seed drill survey samples collected in the Camrose District as a cross section of the varieties of wheat grown in the area, it shows that 55 per cent. of the wheat used was Garnet, 25 per cent. Marquis, 15 per cent. Red Bobs 222, and 5 per cent. Reward. It shows further that 60 per cent. of the samples were pure enough as to variety to make suitable seed, while 40 per cent. was unsuitable. The weed seed content of samples taken from the seed drill varied all the way from clean to very dirty seed. Malting barley has been a profitable crop this year in that portion of the District where there has been sufficient rainfall. As the years pass, definite information is available to indicate the suitability of certain crops for particular areas, and the folly of attempting to grow wheat as a cash crop where some other crop proved to be more profitable. Redwing flax has spread from Sedgewick to the Camrose District, and has proved to be a profitable crop when seeded on clean land. This variety of flax has given reasonably good returns.

FORAGE CROPS.

With the object of increasing the quality of legume hay in the District, an intensive campaign was directed towards the distribution of alfalfa and sweet clover seed. The Dominion and Provincial Governments and the Municipality of Lloyd George, Camrose, assisted about 150 farmers to get sufficient alfalfa seed for 5 acres. On the day this seed was distributed a Meeting was held at which speakers from the University of Alberta and the Department of Agriculture outlined to the prospective growers the

most approved method of seeding and handling their alfalfa fields. The Creamery at Sedgewick co-operated with the Provincial Department in distributing 20,000 pounds of sweet clover seed in the eastern part of the District. From reports received so far, the stands obtained from the seed distributed have been generally satisfactory.

In the area lying between Hardisty on the west and Hayter on the east, and between the Neutral Hills on the south and the Battle River on the north, comprising approximately 2,000,000 acres, there has been a serious shortage of feed for a number of years. A portion of this area is quite sandy in nature, and a considerable amount of money has been spent by farmers, and also by the Federal and Provincial Governments for the purchase of grass and clover seeds through the Forage Crop Improvement Policy. The results have not been very satisfactory. In the fall of 1936 officials of the Provincial and Federal Governments made a fairly extensive survey of the area, and the report of this Committee has been filed with the Department. It was found that wheat has been the principal crop grown, and that considerable live stock was kept on the farms. For a number of years good yields were obtained, good farm homes, schools, and churches were built, and roads constructed. In time, the fibre was removed from the soil, fields became badly infested with weeds, and the soil began to drift. Through over-grazing, pastures became depleted. A drop in price for farm products, together with a long cycle of dry years, were contributing factors leading to the present conditions. Many have abandoned their farms and moved elsewhere, and, while there are not many actually on relief, most of those remaining on their farms have not been able to pay their taxes and other indebtedness. At the present time a considerable portion of the Municipality has ceased to be revenue bearing, and the better portions cannot carry the financial load. Notwithstanding the unfavourable conditions that exist at the present time, the Committee realized that this area is well worth saving. It has many advantages as regards water, feed, fuel, shelter, roads, schools, and railways. Low prices, severe drought, and wrong utilization of lands have led to present conditions. The Committee reported that abandoned fields should be seeded to grasses and legumes; the poorer lands should be used as individual and community pastures; and only the better portions used for grain growing. Some of the problems to be solved in this area are soil drifting control, winter feed production, re-grassing of abandoned fields, renovation of depleted pastures, improvement of hay meadows, improvement of live stock through the use of better breeding stock, proper utilization of feed, water development for both irrigation and stock-watering places, preservation of fence posts, and, in general, the proper utilization of different kinds of land throughout the District. The Committee advised the establishment of a Sub-experimental Station in the Metiskow District, so that approved methods of meeting these problems could be demonstrated, and Field Days arranged to spread the information throughout the area. The Federal Government has authorized the establishment of a Station on the farm of Mr. E. Mason, at Metiskow. Fall seeding of grass seed in stubble was carried out in 10-acre fields—one in each of six Municipalities, and two in the range area north of Neutral Hills. The selection of the location was made on advice of the Municipal officials. Last fall, seed of crested wheat grass was supplied to 80 farmers in order that they might seed a small acreage in rows for seed production. This seed was received from the Experimental Farms at Swift Current and Scott, Saskatchewan, from P.F.R.A. supplies.

JUNIOR CLUBS.

During the year this office supervised 1 Dairy Calf Club with 11 members, 3 Swine Clubs with 50 members, and 18 Grain Clubs with 262 members. The regular programme of Club work was carried on with each Club, and when time did not permit us to carry on all the activities, help was obtained from the officials of the Provincial or Dominion Departments of Agriculture. The Grain Club members within reach of Edmonton were invited to attend a Field Day at the University, where they were given an opportunity to study the experimental work carried on with cereals, grasses, and clovers. Lillias and Ethel Ferguson from the Liberty Swine Club at Conjuring Creek were successful in winning the Provincial Final Competition, and at the Royal Winter Fair, Toronto, they won first place. Assisted by the Federal and Provincial Departments of Agriculture, the Camrose Exhibition Association conducted a Boys' and Girls' Camp in connection with their Fair in July. The staff of the Lutheran College at Camrose are to be thanked for their assistance by providing accommodation for the members attending both these Camps. Fifteen School Fairs were held in the District, supervised by the staffs of the Olds and Vermilion Schools of Agriculture.

Through the assistance and co-operation of the Federal and Provincial Departments of Agriculture, and the Camrose Exhibition Association, a Grain and Seed Cleaning Plant was established at Camrose. Railway facilities at Camrose make it a very convenient centre for receiving and shipping. The plant is equipped to handle seed in small lots or in car-loads.

FIELD DAYS.

Three Field Days were held during the summer, at which members of the University staff and representatives from the Department of Agriculture discussed timely topics. In co-operation with the Provincial Dairy Men's Association, a Dairy Cattle Field Day was held on the farm of Russell Stewart, of Duhamel. Breeders of Ayrshire, Holstein, Jersey, and milking Shorthorn cattle contributed individuals and groups which were used for demonstration and judging purposes. This was the first gathering of this kind that has been held in this District.

Poultry Field Days were held at the farms of Mr. Henry Thomas, Strome, and Mr. Math Badry, Heisler. These Meetings were both well attended, and the audience appreciated seeing Professor J. S. Shoemaker, of the University of Alberta, for the first time, and hear his advice on garden and horticultural matters.

WILLINGDON DISTRICT.

(W. PIDRUCHNEY.)

Following is a brief Report of the activities carried on from the Willingdon office during the year just ended.

JUNIOR CLUB WORK.

Junior Club activities have been carried on in the following Districts:—Willingdon, Andrew, Hahwin, Wasel, Ispas, Wahstao, Lamont, Vegreville, Myrnam, Derwent, and Northern Valley.

In all there were 22 active Clubs at the points mentioned, with a total membership of 362, divided amongst the following clubs:—6 Swine Clubs, 113 members; 9 Wheat Clubs, 153 members; 4 Oat Clubs, 65 members; 2 Barley Clubs, 20 members; and 1 Calf Club, 11 members.

With the above array of Junior Clubs, it is obvious that a great deal of time had to be devoted to these activities. At least two Meetings were held with each Club during the year, in addition to other activities connected with Club work, such as Seed and Swine Clubs, Fairs, Field Days, conducting Judging Competitions, training of judging teams, judging of plots, personal visits, etc., had to be attended to. New Districts are being included in the Club work every year, and some of the older Clubs are permitted to carry on as best they can themselves, for lack of sufficient time for proper attention from this office. Club work has become an established factor in the agricultural policy of these Districts, and has been responsible for more than any other single factor in the improvement in quality of farm products, as well as developing a better system of farming.

LIVE STOCK IMPROVEMENT.

Swine.—In addition to the activities of the Swine Clubs in some of the Districts, considerable promotion work in swine production has been carried on among the adults. Nineteen pure-bred bacon boars have been located for the farmers, and equally as many sows have been placed. The Federal Sow Policy has been given some assistance, and Meetings were addressed in this connection at the following places:—Egremont, Smoky Lake, Bellis, Vilna, Spedden, Elk Point, Ispas, Two Hills, and Andrew. It is difficult to say at present just what were the actual results of this campaign, but Ispas District has taken 17 sows; Egremont District, 20 sows; Andrew District, about 20; the Smoky Lake District has also taken a few. Information through the office has been given on feeding, management, and in connection with protein supplements and minerals. The result of this work is very evident by the marked improvement in grades now being received by the farmers for hogs going to market.

Horses.—Interest in horse breeding is equal to the last four years, and information on the organization of the Stallion Clubs has been given to four communities. Three Percheron stallions have been purchased, two of them privately, and one for a Club, and a Clydesdale stallion has been purchased privately. A team of well bred pure-bred Percheron mares has been located for a man who intends to raise a few pure-bred horses. Considerable groundwork has been done in several communities in the late fall in preparation for the Stallion Clubs for the coming spring.

Poultry.—Over 1,000 baby chicks, in lots of 50's and 100's, were ordered last spring through this office. Many farmers have been directed to proper sources in obtaining hatching eggs and well bred roosters for their flocks. Six Poultry Killing Demonstrations were held in the fall of the year, and considerable interest has been created in the crate-fattening of poultry. Turkey raising has been assisted by means of information where good breeding birds can be obtained, and also on feeding and management.

CEREAL CROPS.

Owing to a complete damage of the cereal crops by an early frost in 1935, many farmers gave orders for small lots of Registered seed, sufficient

to provide themselves with enough pure seed for 1937. The total amount of this seed shipped in through this office was 680 bushels of wheat, 480 bushels of oats, and 142 bushels of barley. At several Meetings during the year, the value of pure seed has been discussed, and, together with the activities of the Junior Grain Clubs, much valuable information has been disseminated throughout the country on the cereal crop production.

FORAGE CROPS AND WEEDS.

The weed menace is being gradually appreciated by a greater number of farmers, and information about eradication or at least keeping them in check is being generally sought. Several special Meetings have been held for the discussion of this problem, and one talk on this subject was given at every Grain Club centre during the summer.

The incorporation of the forage crop in the crop rotation, is being strongly advocated, and a very generous response has been obtained. Twenty-two applications under the Federal Forage Policy and 26 other orders for forage crop seed from other sources went through this office during the year. Local Weed Inspectors take advantage of this office on numerous occasions, and many weed problems are discussed with them.

SHORT COURSES AND MEETINGS.

One-day Agricultural Short Courses were held at Waskatenau, Vilna, and Andrew. Subjects of discussion included the following:—breeding, feeding, and management of live stock, especially beef cattle and swine; culture of forage crops; and weed problems. There was a very good attendance, and very often prolonged discussions took place in which the farmers participated very actively. Twenty-seven other Meetings, apart from the Junior Club Meetings, were held with equal enthusiasm.

MISCELLANEOUS.

The Farm Boys' Camp in conjunction with the Vegreville Exhibition was given assistance during the three days of the Fair.

The bee-keeping industry is gaining ground throughout this country, and considerable assistance was given, especially to the beginners in the management of their colonies. The bee film entitled "The Realm of the Honey-bee" was loaned from the Department, and shown at five centres, together with a talk given on bee-keeping.

A very large number of bulletins, pamphlets, and letters were sent out throughout the year. Inquiries by mail for information on various subjects are increasing every year.

In conclusion we may say that the year just ended has been a difficult year in some respects for the accomplishment of the best results. The roads did not open up in the spring until May 7th, and many plans had to be abandoned which otherwise would have developed into useful projects.

WESTLOCK DISTRICT.

(E. G. WOOD.)

The Westlock District is generally recognized as one having ample moisture throughout the growing season for the production of crops, but the past year proved an exception to the rule. Heavy spring rains, which necessitated late seeding, were followed by a hot, dry summer, and crop yields were materially reduced. With an advancement in the price of wheat and other grains, the financial position of the farmers is much improved over the previous season, when crops were badly frozen in August, resulting in lowered yields and grade. Feed for live stock is sufficient to carry the stock over the winter, and most farmers have their seed requirements for the coming season,

FORAGE CROPS.

Weeds are increasing rapidly in this District, especially Sow Thistle and Wild Oats, and, in order to combat these, and also to provide suitable feed for live stock, this office has strongly recommended the seeding down of land to grasses and clovers. Around 3,000 pounds of alfalfa seed was introduced into the District this past spring through the Dominion Forage Seed Distribution Policy. This seed was distributed to 60 farmers in the District in lots of 50 pounds each, or sufficient for the seeding of 5 acres. Through this policy, many were induced to make a start in the growing of this particular crop, and when once its adaptability and value is recognized little difficulty will be experienced in having the acreage increased.

Apart from alfalfa, other forage crop seeds, such as alsike, sweet clover, crested wheat grass, and timothy were secured through this office for farmers in the District, and there is every indication that the acreage seeded to these crops will continue to increase. The production of forage crop seed is also receiving considerable attention, and promises to be an additional source of revenue for those who are prepared to give this branch of farming the necessary care.

CEREALS.

Through the efforts of this office, and in co-operation with the various Municipalities, 6 car-loads, or over 12,000 bushels of Registered and Certified Victory and Abundance oats, were introduced into the District this last spring. A special effort was made in the way of having these seed oats seeded on clean and well prepared land in order to insure a supply of good seed in the District for the coming season. Also 350 bushels of Registered and Certified O.A.C. No. 21 and Peatland barley were placed with growers under contract with the Canada Malting Company. In most cases the returns to the growers proved quite satisfactory.

A seed survey of the District was made last spring which revealed rather startling results. Forty samples consisting of wheat and barley were obtained from seed drills, and these samples were sent to the Vermilion School of Agriculture and the Dominion Seed Branch for a purity test, as well as weed seed analysis. According to reports received on these samples, on 13 out of the 40 obtained a seed grade, and the average noxious weed seed content was 91 per pound, while the average total weed seed content showed 173 per pound. Mercury dusts have been recommended in preference to formaldehyde in the treating of grain for smut.

JUNIOR CLUBS.

Four Swine Clubs, with a total membership of 62, and 1 Barley Club, with 13 members, were given assistance during the past year. Owing to an acute feed shortage, 2 of the Swine Clubs were unable to complete the season's work. Swine exhibits and judging competitions were held at Colinton and Westlock, but, unfortunately, all the Club members did not take part in the Fair. Two boys from the Westlock Club were selected to enter the Provincial Swine Judging Competition, held in Edmonton, and were given special training in the judging of pigs prior to taking part in this competition.

The Barrhead Peatland Barley Club completed the work for the season, and the results obtained were very gratifying. Five hundred and thirty bushels of malting barley were sold by the Club members to the Canada Malting Company, and the net price received amounted to 76 cents per bushel. From a \$3 investment in seed, one of the members in the Barrhead Club obtained a cheque for \$102.42 from the sale of his barley, after deducting 20 bushels, which he retained for seed.

LIVE STOCK.

The cattle in this District, as far as quality is concerned, can be placed well below the average produced in the Province. The main difficulty apparently lies in the fact that few farmers, if any, have any definite plan or objective in mind in so far as a breeding programme is concerned. The practice of cross breeding, especially between the beef and dairy breeds, is quite a common one, and the results are disastrous to the man who is attempting to produce beef, as well as to the dairy farmer. By pointing out the fallacy of the present system under which cattle are being produced in this District, and through encouraging as many farmers as possible to adopt some definite plan, it is hoped that some improvement might be made in the general quality of cattle in the District.

There is every evidence of improvement in the quality of hogs, and the Westlock District is considered to be one of the best in the Province. There are certain areas within the District where the hogs are below average, and it is the object of this office that Junior Swine Clubs be established at these points. Through the introduction of better breeding stock, along with education work, much can be done to raise the standard of hogs marketed from these areas.

POULTRY.

An increasing number of farmers are becoming interested in flock improvement work. The better price offered for hatching eggs, especially at a season when commercial eggs are generally low in price, has been an incentive for many to improve their flocks in order that they may qualify for this particular trade. Twenty-one flocks were culled under the Dominion Hatchery Regulations, and blood samples taken from 3,500 birds. Considerable assistance has been rendered in the way of obtaining breeding stock for farmers, as well as supplying information on various phases of the poultry industry.

ORGANIZATION WORK.

During the early part of the year the District Agriculturist was appointed Secretary-Treasurer of the Westlock and District Agricultural

Society. Acting in this capacity, many contacts were made, which were found to be very beneficial. Through the services rendered to this organization it is hoped that the Agricultural Society may eventually prove to be a vital factor in the promoting of better agriculture in the District which it serves.

GRANDE PRAIRIE DISTRICT.

(G. S. BLACK.)

The season of 1936 was a very satisfactory one in the Peace River District. Crop yields were good. Wheat averaged 25 bushels per acre, and oats from 60 to 80 bushels. A little damage was done in isolated parts by hail and wire-worms. Prices this fall for grain were the highest since the depression, and this has resulted in a spirit of optimism among the people.

Live stock is forming a major part of the farm enterprise each year. This is especially true of hogs, cattle, and horses. Cattle prices were better during the end of the year, and quite heavy shipments were made. In co-operation with the Dominion Live Stock Branch, several Bull Loaning Associations were formed, and some good bulls are being brought into the District under this policy.

HOGS.

Hogs are increasing in numbers and the quality is also improving. This is due to better feeding methods and better breeding stock. The Dominion Live Stock Branch is assisting in distributing good boars through Swine Clubs and other agencies.

HORSES.

There is an increased interest in horse breeding, and five stallions have been placed under the Co-operative Stallion Club Plan, and it is expected that the same number will be placed this coming season. Work horses are becoming scarce, and a few head have been shipped in.

SHEEP.

Sheep raising is in the hands of a relatively few men, and we do not expect that there will be any great increase in the numbers of sheep. Some good rams have been shipped in by the Dominion Live Stock Branch, and the flocks on the whole are of good quality.

FORAGE CROPS.

The growing of forage crops, especially of grass seeds, is receiving increased attention by the farmers. Growing of alsike, clover seed, and crested wheat grass is receiving most attention at present.

SEED GRAIN.

This District perhaps has the best reputation in the West for producing good seed grain, and a large number of car-loads were shipped out last

year. A large quantity of the grain, however, was frosted, and this interfered seriously with the trade. The highest honours at the Royal and International Seed Fairs were won by Peace River exhibitors—Mr. Herman Trelle having won the Grand Championship at the International again on both wheat and oats.

EXTENSION WORK.

Extension work was divided between Junior Clubs, Junior Field Days, and School Fairs. Field Days were held at Hythe, Sexsmith, and Spirit River. These were well attended, and representatives of the Department of Agriculture and of the staff of the University were present, and gave valuable assistance. A Junior Field Day was also held at the Beaverlodge Experimental Farm, and assistance was given by the Superintendent and his staff. A District Seed Fair and Short Course was held in Grande Prairie in December. The exhibits were outstanding, and the Short Course was well attended.

Assistance was given by this office to the Relief Branch in connection with land inspection and assisting new settlers on their land. This office is also used extensively by the farmers who come in to discuss their various farming problems, and to obtain advice as to their solution.

REPORTS OF THE SCHOOLS OF AGRICULTURE

OLDS SCHOOL OF AGRICULTURE.

(JAMES MURRAY, *Principal.*)

At the closing exercises held on March 24th, the Hon. W. N. Chant, Minister of Agriculture, and Dean Howes addressed the students. Diplomas were presented to 45 graduates in Agriculture and 29 graduates in Home Economics. Prizes were presented to a number of students who stood high in the various departments.

The 1935-36 year terminated about 10 days earlier than usual on account of the prevalence of communicable diseases. During the spring term we had outbreaks of influenza, German measles, scarlet fever, and mumps. There were many cases of influenza and German measles, none of them serious, but they greatly disrupted the class work, as many of the students were absent from two to three weeks. There were only four cases of scarlet fever, all of them mild, and, fortunately, we were able to transfer them to the Isolation Hospital in Calgary for treatment.

We had only a few cases of mumps, but toward the close of the term it looked as though we might have a severe epidemic, and the School was closed early in consequence.

Our facilities for handling an epidemic of infectious diseases are most inadequate. A separate building near the Dormitory, to be used as an Infirmary, is an urgent need.

SCHOLARSHIPS AND PRIZES.

We have been very fortunate in having friends of the School offer a number of prizes and Scholarships. Many of these were not presented until the Christmas closing as the awards could not be made until after the closing exercises the previous March.

For the current year we are glad to be able to offer Scholarships similar to those offered last year, and, as well, a number provided by the Board of Trustees administering the surplus funds of the Wheat Board. The five Scholarships of \$100 each to students who wish to proceed to the University will be of real help to a number of deserving students.

We have a very satisfactory enrolment this year, as many as we can satisfactorily accommodate. The enrolment is as follows:

Students in Agriculture:—

First Year	59
Second Year	35
Two-in-One	21
Total	<u>115</u>

Students in Home Economics:—

First Year	34
Second Year	15
Two-in-One	24
Total	<u>73</u>

a total enrolment of 188.

We again have a record number of students in Home Economics. Fortunately, a number live at home in the Town, and, even then, the Girls' Dormitory is filled to capacity. The classes are as large as can be accommodated in the laboratories, and the members of the teaching staff have full programmes.

We again have excellent Two-in-One classes, and it has again been possible to give them a considerable part of their instruction in classes separate from the others.

We are again without a Third Year class. During the summer we received, for this Course, applications from 7 or 8 graduates of this School and the one at Vermilion, but the number was not sufficient to justify the Course being put on, as it would have necessitated adding at least one member to the staff.

COURSE OF STUDY.

The course of study has not been changed greatly for a number of years. The course in Agriculture is planned for boys who intend to become practical farmers, and fully 95 per cent. of our students return to the farm. Each year we have a few who proceed to the University for advanced work, having a professional career in mind. To facilitate their work we have an arrangement with the Faculty of Agriculture whereby a graduate from an Agricultural School may complete his work for a degree in three years. The course in Home Economics is a home-makers' course, planned for those who intend to make their homes on farms. Each year we get a number of students from the larger Towns and Cities of the Province, but the majority come from farms. A few proceed to the University for a degree.

SCHOOL FAIRS.

Seeds were distributed to 55 Fair centres, and, of this number, 52 held Fairs. Drought conditions were responsible for these 3 centres not holding Fairs. School Fair work was introduced or revived in the following centres:—Thorsby, Leduc, Craigmyle, Castor, Forest Lawn, Gleichen, Hartley, and Cowley; and the following were discontinued temporarily:—Bow Island, Milk River, and Sylvan Lake.

The Fairs were held between September 3rd and September 30th, and the territory was divided into 3 Circuits. The judges consisted of a man and a lady staff member of the Agricultural Schools for each Circuit. The District Agriculturists judged the live stock and poultry in their respective Districts. The School Inspectors, with voluntary assistance, judged the school-room work.

The work shown at the Fairs was good, the number of entries varying from 244 to 1,850, with the average entry 836. The interest, with a few exceptions, was keen.

Four new centres have already enrolled for 1937, and as many more will likely be added.

School Fairs are generally conceded to be of great assistance in the development of a well rounded education for the country boy and girl, and, but for the shortage of funds due to poor crops, the work would be extended to all parts of the Province.

SCHOLARSHIP SHORT COURSE.

The School Fair Scholarship Course was held at the Olds School of Agriculture during the week of July 13th to 18th.

Forty-six boys and 46 girls who had won the highest number of points for their exhibits at their respective School Fairs in 1935 were in attendance. The Dormitory provided splendid accommodation, and a home-like atmosphere was soon evident.

Practical class work daily, interspersed with organized play periods, kept everyone busy during the day, and each evening entertainment of a varying nature was arranged.

The Course was greatly enjoyed and appreciated, and many expressed the desire to return later for the regular Courses.

Keen disappointment was shown regarding the withdrawal of the two Scholarships of \$75 each toward a Course at the School of Agriculture. We are pleased to say that arrangements have been made to again offer these prizes in 1937.

SUMMER SHORT COURSES.

The Course for Farm Women continues to be popular. The attendance was better than in any previous year, and the interest could not have been surpassed. We have about 50 who registered for the whole Course, and each day a number came in from the Women's Organizations in the surrounding District. On the last day we had an attendance of 140, enough to tax the capacity of our class-rooms. A number of women have returned year after year to this week of rest, instruction, and inspiration.

The Women's Institute Girls' Club returned for their Convention in July. They, too, came in larger numbers than in former years, and had one of the best Meetings on record. Staff members contributed part of the programme, and the young women, most of whom are prospective students, get acquainted with the work that the School is doing.

EXPERIMENTAL UNION.

Originally, all the members of this organization were students and ex-students, but for a number of years many others have joined as well. In 1936 we had over 400 members who were interested in trying on their respective farms, varieties of grasses, clovers, flowers, shrubs, and vegetables that have given satisfactory results here. Reports of the season's work were received from the majority of the members, and many expressed their appreciation of the value of the material they had received.

A Seed Fair was held on January 5th. Cold weather and bad roads interfered with the attendance, but there was good competition in a number of the more important classes. An active year is planned for 1937.

SUMMER WORK OF STAFF.

The regular School work being over early in April, a number of staff members are free for extension work during the summer months. The lectures in Home Economics are used most of the summer by the Women's Bureau for Women's Meetings throughout the Province. Several of the lecturers in the Agricultural department are used as District Agriculturists for the summer months; several in the promotion and organization of School Fairs; and others in special work such as the control of grasshoppers, supervision of seed and feed relief. The judging at School Fairs is undertaken by staff members—the month of September being devoted to this work. The country work of staff members has the great advantage of enabling them to make contact with prospective students, and give them first hand information regarding the School and the Courses offered.

WORK ON GRAY AND PEAT SOILS.

During the past summer we have been able to continue and extend to a limited extent the work with gray and peat soils. The demonstration plots that have been started have attracted a great deal of attention in the localities, and will be the means of imparting information of much value. We are hoping to extend this work considerably during the coming year.

HORTICULTURAL WORK.

Through the acquisition of the Fruit Experiment Station at Brooks by the Department of Agriculture, we have been able to add to our horticultural material on test. We have enlarged our stock of perennial flowers and shrubs, and have been able to get a variety of a stock for budding and grafting.

Our orchards, mainly crabapples, with several varieties of standard apples, produced a good crop of fruit. The unusual heat of the summer and the dry weather ripened the fruit earlier than usual. Unfortunately, a hail-storm when the fruit was immature, damaged it rather badly, or the crop would have ranked among the best that we have harvested. We added a few promising varieties of apples and plums from nurseries on the prairies. Our results with tree fruits have been sufficiently promising to warrant the work being gradually enlarged.

FIELD HUSBANDRY.

As intimated in our Report of last year, we have been for several years devoting considerable attention to forage crop work. This continues to be the case. This year the only results that are of any value are those from hay and pasture crops, as hail severely damaged all our cereal plots.

We have a very brisk demand for seed of creeping red fescue (*Festuca arenaria*), and a number of good seed growers have now seed-producing fields well established. This grass promises to fill a useful place as a pasture grass in central and northern Alberta.

Siberian red clover also continues to attract attention. Seed is being placed in the hands of experienced growers so that it may be distributed more rapidly throughout the Districts to which it is adapted.

THE SCHOOL FARM.

The Farm consists of a section, less the acreage that is used for buildings, campus, gardens, and experimental grounds. One quarter section is in unbroken pasture. The balance is worked as a mixed farm where considerable stock has to be provided for.

The season here was not a favourable one for farm crops, as it was unusually hot and dry after favourable spring conditions. Hail took a very heavy toll, not only on the School Farm, but also in the District east and south of here. A bad storm on July 18th destroyed all our barley and damaged much of the oats. Several light storms, which followed at intervals of several weeks, damaged the oat crop so badly that little of it was worth threshing.

Fortunately, we had a fairly good crop of hay, as May had an average rainfall. July, August, and September were very dry, so that only one cutting of alfalfa was secured, and the straw of all grain crops was short. The dry weather, however, gave us a good opportunity to destroy weeds on summer-fallow so that the season had its compensations. Fortunately, we had a considerable surplus of grain left from 1935, so that we shall not have to buy much.

As we have been without a Guernsey bull for some time, we sold the two females that we had on hand. We now have a small herd of Ayrshires and a larger herd of Shorthorns. Three Ayrshire females were bought in the fall from Roland Ness, of De Winton. In the fall a car of Hereford steers were put on feed. A number of these will be butchered for the dormitory before spring.

We have a small herd of Yorkshire hogs used mainly for class-room purposes. The sows are all from Advanced Registry dams, and are themselves entered for Advanced Registration. We have had an excellent demand for young breeding stock.

Our small flock of Hampshires has done well during the past season. There was a good crop of lambs, but, as they came late, none of the lambs were kept for breeding stock. A large number of the best ewes were bred to get early lambs next spring, so that they may be saleable for breeding next fall.

We raised four foals during the season from the Percheron mares—three sired by *Stampede*, owned by Greenway and Clark, and one by a stallion owned at Lacombe. During the summer three mares were again bred to *Stampede*, and two to *Pernot*, owned by Jack Lewis, of Lyalta. Several of the older geldings and one mare were sold during the year, as we have young stock coming on to replace them. Our two-year-old stallion *Cleo's Lact* was shown at the Royal Winter Fair in Toronto in December, and was placed fifth in a strong class.

VERMILION SCHOOL OF AGRICULTURE.

(W. J. ELLIOTT, *Principal*.)

Herewith is submitted the Annual Report for the School of Agriculture, Vermilion, including that of the School Farm, for the year 1936. The Report will give a brief account of the various activities, together with some of the meteorological data that is kept at this Station.

SCHOOL OF AGRICULTURE.

The attendance of students this winter, while not quite as large as last year, is nevertheless very satisfactory. The students are more evenly distributed among the various classes and, although the average age may be slightly less than usual, yet the educational standing seems to be higher, and there is generally a more uniform standing among all the students. In the early days we had many students who were over the 20-year-age mark and who had not passed Grade V or VI. To-day we have very few of such students, and the average standing is somewhat above Grade VIII.

During the term we registered a total of 142 students. One of these, however, returned to his home a few days after registration, as he was entirely unsuited to the work as given in the School. The net registration is therefore 141 students.

The complete registration of all students since 1926 is herewith given, and are classified as to years:--

	1924	1925	1926	1927	1928	1929
First Year Girls.....	..	28	38	31	45	35
First Year Boys.....	..	40	55	61	72	60
Second Year Girls.....	..	..	6	16	11	13
Second Year Boys.....	..	..	24	24	32*	31
British Boys	64	23	7	18	35	13
Two-in-One Girls	..	..	..	..	1	..
Two-in-One Boys	..	..	..	..	4	10
Third Year Girls.....	..	..	..	..	6	2
Third Year Boys.....	..	..	..	..	5	13
Totals	64	91	130	149	211	177

*One of those recorded in the Second Year Agricultural Course in 1928 was a girl, Alma Gudlaugson, who completed the Course with the boys.

	1930	1931	1932	1933	1934	1935	1936
First Year Girls.....	19	17	21	..	27	37	32
First Year Boys.....	46	30	35	..	91	61	46
Second Year Girls.....	14	7	8	..	4	15	17
Second Year Boys.....	22	28	19	..	10	33	31
Two-in-One Girls	6	12	12	..	17	10	6
Two-in-One Boys	4	6	3	..	16	13	9
Third Year Girls.....	1	..	..	..	..	..	..
Third Year Boys.....	8	..	..	..	..	..	..
Totals	120	100	98	..	165	169	141

WEATHER REPORT.

In some respects 1936 has been an unusual year. With a total of 8.5 inches of moisture (including snow), it is recorded as the dryest year in the past 11. In 1929 we have 10.76 inches, so that 1936 has 2.26 inches less than that extremely dry year. The average for the past 11 years is 16.54 inches, so that 1936 has just about one-half the average yearly moisture. Vermilion District sees considerable extremes in this respect, with a high precipitation of 25.26 inches in 1931, and a low of 8.5 inches in 1936. The great crop-influencing factor, however, is the moisture that falls during May, June, and July and August. The following shows the moisture for these months, by years, since 1926:—1926, 11.13 inches; 1927, 11.48; 1928, 10.79; 1929, 5.24; 1930, 13.08; 1931, 20.41; 1931, 10.08; 1933, 10.42; 1934, 11.76; 1935, 10.24; 1936, 6.86.

It will be noted that 1936 has actually more moisture for these four months (May, June, July, and August), than had 1929, although, when you look into the April preceding the May in each case, then April (1929) had 1.5 inches, while April (1936) had .12 inch, so that when these figures are added, the summer moisture for 1929 and 1936 is very nearly alike.

SCHOOL FAIRS.

The annual School Fair Short Course was held during the month of July, with 60 winners in attendance. This number included 10 from the Peace River territory, who had been unable to attend last year on account of flood conditions.

As a result of closer contact with Districts interested in the School Fair programme, organization of 9 additional centres was completed during the current year. Two centres felt unable to carry on for the time being, so that the total number of Associations in northern Alberta during 1936 stood at 35—an increase of 7 over the previous year.

Unfavourable weather in the Peace River District made it necessary to postpone several Fairs until a later date, but all other Fairs were held according to schedule. At most points there was a noticeable increase both in attendance and interest, and it is felt that the School Fair programme is once again enjoying a measure of popularity amongst teachers and others interested in the education of rural children. Altogether, about 6,800 children took an active part in the work, and exhibits totalled approximately 25,000.

During the summer, meetings were held at a number of points desirous of organizing for 1937. An effort was also made to merge several of the smaller Fairs in Districts which tended to overlap. As a result of re-organization, the number of Fairs will likely remain about the same, with a possible slight increase next year. Full details of the Fairs under the supervision of the Vermilion School of Agriculture will be found in the complete annual Report on School Fairs.

FARM WOMEN'S WEEK.

Farm Women's Week was held during July, 1936, with a very large attendance. There were 79 women registered regularly for the Course. The first days of the session, however, saw an attendance of 104, as the Viking Ladies' Club came over in its entirety with 24 members.

The ladies were very enthusiastic over the sessions, and their regular and interested attendance at all of the demonstrations indicated a very keen interest. The Viking Club, which had only arranged for the one day, is planning to return next year with its whole membership for the entire three-day Course.

Altogether we feel that the Course was abundantly worth while, and the group expressed the opinion that it was immensely pleased with the instruction and the outing, for, indeed, it was an outing for many.

AGRICULTURAL FAIR SHORT COURSE.

Again the Agricultural Fair Short Course proved to be very popular. In 1935, 212 were registered, but this was a little more than the normal

accommodation of the School Dormitory, so that for 1936, registration was restricted, and as a consequence a total of 183 boys and girls attended the Course. Fifty-eight of these were girls, and 125 were boys. The Course was similar to other years, which included two days of Agricultural or Household Science work, followed by parts of two days spent as guests of the Agricultural Fair Association.

This Course, also the School Fair Course, and Mothers' Week, are all proving to be valuable recruiting sources for students. In addition, the instruction and outing is of great value to the students themselves. Each year the older boys of the group assist with the live stock parade in front of the grand stand.

MEETINGS AND PICNICS.

More and more are the farmers from a wide District making use of the School and Farm. Visits take the form of picnics, small groups, and many families have driven in as units to eat a lunch on the lawns and visit the Farm and stock and fruit section. We feel that these visits are enjoyed, as scarcely a day passes without its quota of visitors of some kind.

The Clydesdale Breeders Association held their Field Day in June, and a very large turnout of people, from as far as Edmonton, and beyond, enjoyed the day with the addresses and stock judging classes. Hon. W. N. Chant welcomed the gathering.

FRUIT SECTION.

The fruit section has not shown up as well during 1936 as in previous years. This may be partly due to the very severe winter of 1935-36, as there was considerable winter killing. The new plantation of raspberries had its first crop, but the plums and crabapples were very scarce due to a frost during the bloom season. We will have rhubarb roots, some raspberry canes, two-year elms, and green ash seedlings for distribution to the alumni this year. The black currants, usually so plentiful, promised well, but, due to drought conditions, the later fruit was dried up.

FARM HOMESTEADS AND WINDBREAKS.

During the past two years very considerable interest has been manifested in the planting of windbreaks on Alberta farms, and the arrangement of homesteads, with the lawns, shrubs, flowers, and also the general arrangement of drives, yards, and paddocks, for effectiveness and convenience.

We have personally visited 18 farms during the past summer, and have staked out and drawn plans to scale, indicating where the main windbreaks and shelter belts should be placed; and arranging the barnyards and paddocks, and the planting of lawns, shrubs, etc. A list of suitable trees, shrubs, and flowers have been given. It is not suggested that such plans be completed at once, but rather that year by year, as opportunity offers, something be done, and that eventually the whole may be a convenient and pleasing arrangement that will not only protect man and beast from the prevailing cold winds, but will add something of beauty to the homestead that will, in time, grow into that which may be considered as a real home. Many of this year's first year students made rough drafts of the home arrangement of buildings, etc., while on their Christmas vacation, and time will be spent in class with these in preparing plans.

SEED GRAIN AND ROD ROWS.

An interesting test was conducted of rod rows of grain of various kinds, taken from wagon loads delivered at the elevators, and from samples that farmers had treated for seed. Many of these samples were taken from the drill. They were grown to study the mixtures of seed being sown and to see the effect of treatment with formaldehyde, ceresan, or leytosan. A Field Day was held at which Mr. Goodall examined the hundreds of rod rows, and gave an excellent talk to those assembled. The day was one of interest and profit.

The University Experimental Farm and the Schools of Agriculture were combining in the Crop Testing Plots, samples being secured by District representatives and several of the Elevator Companies. Each farmer's name was carefully recorded so that they could see exactly what their own looked like in comparison with the rest.

CLUBS AND SHORT COURSES.

Regarding Clubs during the past season, I may state that we organized 1 new Swine Club at Marwayne. There are 25 members—17 of whom showed pigs at the Fair on November 12th, and 20 members took part in the Judging Contest held the same day. The Dina-McLaughlin Club was continued, and held a successful Fair in October.

Three Grain Clubs were supervised. A Wheat Club at Dina and an Oat Club at each of the Dewberry and Clandonald Districts. One of the Dewberry boys stood second in field score for this Province, and one of the Clandonald boys stood eighth in threshed grain at the Royal Fair in Toronto.

APIARY.

The scale hive showed a gain of 170.5 pounds for the season.

Caucasian bees were shipped in, and indicated a greater inclination for swarming than the Italian bees.

Several Italian queen bees were imported and placed in neuclic to study their adaptability to this climate. Those proving satisfactory will be returned to California to produce breeding stock.

THE SCHOOL FARM.

The stock at the Farm has made a very good showing during the past year. Seven foals were raised during the past season. One stallion was sold and one registered Clyde mare. Our stallion was used on 51 mares in the District.

During the year three Shorthorn bulls were sold for breeding. A new herd bull was purchased from the E. P. Ranch.

Thirteen Yorkshire boars and 16 York gilts were sold as breeders.

Twelve Oxford and 6 Suffolk ewes were sold for breeders; also 1 Oxford and 4 Suffolk rams.

A great deal of the Farm is now under grass, and demonstrates the possibility of the growing of cultivated grasses and alfalfa in this District. We also have splendid material with which to demonstrate the most economical methods of bringing sod land under cultivation.

The six-acre rotation plot was brought forward to a three-year standing. The grass plot would indicate that alfalfa and brome are a better combination than alfalfa and crested wheat grass for hay production.

SCHOOL STAFF FOR 1936.

- W. J. Elliott, B.S.A..... Principal, and Instructor in Economics, Farm Management, Dairying, and Civics.
- D. A. Andrew, B.S.A..... Instructor in Animal Husbandry and Poultry, Veterinary Science, Farm Management; also directs the operation of the School Farm.
- N. N. Bentley, B.Sc..... Instructor in Chemistry, Soils and Physics.
- A. M. Wilson, B.A., B.Sc., M.Sc... Instructor in Botany, Horticulture, Soils, and Field Husbandry.
- W. S. Scarth, B.S.A..... In charge of the Shops, and Instructor in Carpentry, Farm Machinery, and Gas Engines.
- W. G. Malahar, B.S.A..... Instructor in English and Mathematics.
- E. W. Mormack, B.Sc..... Dean, and Instructor in Stock Judging, Physics, and Director of Physical Training Work.
- Miss M. E. Storey..... Matron, and Instructress in Textiles.
- Miss M. P. Shaw..... Instructress in Sewing, Clothing, and Design.
- Miss L. M. Milne, B.Sc..... Instructress in Cooking, Household Administration, and Laundry.
- Miss Margaret McKenzie, R.N.... Instructress in Home Nursing, and in charge of the Dormitory health.
- D. McCauley Blacksmithing.

We again wish to speak in the highest terms of the faithful and untiring work of the staff. We have always felt that we have had their loyalty and their sympathetic support, and this means so much in the handling of an Institution where staff and students are so intimately associated. The Principal wishes to acknowledge this support from a staff that is interested in the School work.



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